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ABSTRACT

Organized in eight chapters, this interdisciplinary resource packet highlights the relationship between art and archaeology. Chapter 1 presents the vocabulary and several introductory activities that prepare students to participate in the subsequent chapters. These chapters focus on (2) "Lascaux Cave Paintings"; (3) "Life Along the Nile" (ancient Greece); (4) "The First Emperor of China" (Qin Shi Huangdi); (5) "Aegean Wonders" (ancient Greece); (6) "Pompeii"; (7) "Celtic Legacies" (Celt people who lived in various areas of Europe, also known as "Keltoi" or "Gauls"); and (8) "Create an Exhibit." Background information is provided. Each lesson contains objectives, list of materials, vocabulary, discussion questions, activities, and assessment information. The resource kit includes 25 poster images that relate to the lessons. Discussion ideas, based on selected images from the posters, encourage critical viewing and critical thinking. Reproduction masters of student worksheets and guides are provided. Appendices include the "National Standards for Art Education-Visual Arts," a glossary, index, related resources, suggestions for further reading, web sites, and acknowledgments. (MM)

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ART AND ARCHAEOLOGY

SO 028 341

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Art & Archaeology

by Jul Wildman and 'Leni Schumacher

CRIZMAC Art & Cultural Education Materials Tucson, Arizona

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To the Teacher

Dear Educator,

Thank you for choosing *Art & Archaeology* as a supplement to your curriculum. The information and activities presented in this book will help you lead your students on a fascinating journey into the past. Along the way, your students will discover connections between themselves and those who lived long ago. Names of everyday items, the history of their development, and the people who created them suddenly come to life in the present. Archaeology teaches us about the past in a most democratic way: through the artifacts and art people have been left behind.

This resource is organized into eight chapters. The first chapter presents vocabulary and several introductory activities that prepare students to participate in the chapters that follow. The remaining chapters include historical information about significant archaeological sites, discussion ideas, and activities. Because the study of archeology provides learning opportunities in many disciplines, it is a discipline that is well-suited for an integrated curriculum.

The lessons contained in this resource are designed to satisfy the National Standards for Arts Education-Visual Arts. The appropriate content standards are noted at the beginning of each lesson, and the corresponding achievement standards at the end.

We wish you the best as you travel the byways of ancient civilizations. As you guide your students on their journey, you may serve as the mentor of a budding archaeologist!

Sincerely,

Julia Wildman

Julia Wildman

'Leni Schumacher

'Leni Schumacher

How to Use this Resource

This interdisciplinary resource is presented in eight chapters that highlight the relationship between art and archaeology. The National Art Standards met by the activities in each chapter are identified at the beginning of those activities. The standards are included to assist you with your curriculum planning.

Organization of Chapters

Background information is provided at the beginning of each chapter to support lessons at the end of each chapter. Use the backgound information to create a context for learning about the cultures/regions discussed. Each lesson contains objectives, materials, vocabulary, discussion questions, activities, and assessment.

Artifactoids

Artifactoids are interesting facts that are presented in insets throughout the text or in the margins. Share them with your students as you teach.

Art Activities

Select the art activities you wish to do with your students and follow the instructions for each lesson. Complete each lesson with assessment and include the results in your students' portfolios or with any other assessment procedures you use.

Discussions

Discussion ideas based on the background information and selected images from the poster are presented in each lesson. If you have purchased the correlated slide set for this resource, use it to support your classroom discussions, as well. The discussion questions can be used to provide content for reports, research papers, interviews and other related activities that integrate with social studies and language arts.

The *Art & Archaeology* Poster/The *Art & Archaeology* Slide Set

The *Art & Archaeology* poster contains twenty-five images that relate to the lessons. The images are referenced in the discussion sections of the lessons. The optional correlated slide set provides twelve additional images. These slides are also referenced in the discussions sections. For information about how to obtain the slide set see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

Assessment

Assessment is divided into two parts: Activity Assessment follows each of the art activities and Chapter Assessment is presented at the end of each chapter.

Reproducible Masters/Map

Many of the activities call for the use of worksheets or guides that are included in this section of the resource. Also in this section is a map of the locations discussed.

Glossary and Index

Vocabulary words appear in the margins throughout each chapter, but for quick reference or pronunciations, use the complete glossary at the end of this resource. For quick reference to selected topics, use the index at the end of this resource.

Additional Resources

Additional resources that are related to the content and activities in *Art & Archaeology* are listed on pages 128–133 of this resource.

Chapter 1
Introduction

CHAPTER OBJECTIVES
Students will learn:

- that archaeology is the study of the lives and cultures of past peoples through the excavation and analyses of their material remains (structures and artifacts)
- that archaeologists observe, gather, describe, and analyze data to make interpretations about cultures of the past
- to distinguish between the roles of archaeologists and paleontologists
- the techniques and methods archaeologists use to locate potential archaeological sites for excavation
- why artifacts should be left in situ and analyzed in context

WHAT IS ARCHAEOLOGY?

"What is Archaeology?" introduces basic vocabulary that you and your students will use while engaging in the lessons presented in subsequent chapters. The discussion questions and activities that accompany each of the following sections can be used to check for your students' understanding of the content.

A. CLUES TO THE PAST

The term **archaeology** comes from the Greek words *archaois*, which means "ancient," and *ology*, which means "the study of." Archaeologists are scientists who uncover human-made objects, called **artifacts**, found during **excavations**, or digs, at various sites around the world. Archaeologists also collect other materials like small bits of grain, seeds, and animal skeletons. These remains provide clues to such things as the types of foods that people may have consumed and the climates in which they lived. Artifacts are like pieces in a puzzle: when pieced together, they reveal information about the way people lived in the past.

Another science closely related to archaeology is **paleontology**. The term paleontology comes from the Greek words *palai*, which means "long ago," *onta*, which means "existing things," and *ology*, which again means "the study of." Paleontologists piece together facts about the earth's ancient plants and animals by excavating and studying fossils and bones of **prehistoric** animals, including dinosaurs. Paleontology is actually a branch of geology, a science concerned with the history of the earth and its features.

How are paleontologists and archaeologists different from each other? Both are concerned with finding clues that reveal information about the past, but archaeologists look to human-made clues—such as jewelry, weapons, artworks, and built structures like walls and monuments—to understand past human life

VOCABULARY

archaeology—
The study of the lives and cultures of past peoples through the excavation and analyses of their material remains (structures and artifacts).

artifacts—
Objects or items collected at an archaeological site, usually made by human work.

excavation—
A site where the earth has been removed for archaeological study; also may be called a "dig."

paleontology—
The branch of geology which deals with prehistoric forms of life through the study of plant and animal fossils.

prehistoric—
Of or relating to the period preceeding the earliest period of recorded history.

Excavated Site at Megiddo Tell, Israel © 1966 by Paul Wildman.

Projectile Point (Arrowhead) Replicas © 1996 by Jul Wildman.

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VOCABULARY

anthropology—
The study of the races, physical and mental characteristics, distribution, customs, social relationships, etc. of mankind; often restricted to the study of the institutions, myths, etc.

analysis—
A process method of studying the nature of something or of determining its essential features and their relations.

interpretation—
In archaeology, what an artifact is determined to be and what function it is determined to have had, based on the clues the artifact gives.

and activities; paleontologists looks to fossils—ancient plant and animal remains—to understand the life of the earth itself.

There is another science which is related to both archaeology and paleontology called **anthropology**. The term anthropology comes from the Greek words *anthropo*, meaning "man," and *ology*, again meaning "the study of." Anthropology is the study of human beings—their origins, physical and mental characteristics, distribution, and customs. Oftentimes, anthropologists study the institutions, myths, and daily affairs of various cultures.

DISCUSSION: WHAT WOULD THEY SAY ABOUT US?

Present the following scenario and lead your students in a discussion using the scenario and sample questions that follow:

Imagine that our school was destroyed by an earthquake and covered with earth. If a team of archaeologists came to excavate the site in the future, what artifacts might they find? After studying these artifacts, what ideas might the archaeologists have about our school? What ideas might they have about our culture? Would a paleontologist or an anthropologist be interested in participating in the excavation? Why or why not?

MINI-ACTIVITY: ARCHAEOLOGIST OR PALEONTOLOGIST?

Materials

- Archaeologist or Paleontologist? activity sheet*
- Answer Discussion Sheet*
- pencils

*See Reproducible Masters section beginning on page 101 of this resource.

Getting Ready

Make one copy of the Archaeologist or Paleontologist? activity sheet for each student.

Activity

Distribute the activity sheets and ask your students to complete the exercise. Use the Answer Discussion Sheet to review your students' answers and check for their understanding of the concepts.

B. SOLVING THE PUZZLE: ANALYSIS AND INTERPRETATION

Like all scientists, archaeologists observe, gather, describe and analyze data. Using artifacts as clues, they formulate questions and do **analyses** of data found at a given archaeological site. The answers to the questions and the analyses of the data collected lead the archaeologists to an **interpretation** of the artifacts and the site. The interpretation tells what the archaeologists determine the artifact to be as well as how the artifact was used and its significance within the context of the site.

Weighing Artifacts at Burton Acres Shell Midden, Vashon Island, Washington, Under the Direction of Dr. Julie Stein © 1996 by Jul Wildman.

MINI-ACTIVITY: MONEY TALKS

Materials

- an assortment of coins: nickels, pennies, dimes, etc. (one coin per student; foreign coins are best if they are available)

Getting Ready

Distribute one coin to each student.

Activity
Ask students to examine their coins as if they were archaeologists in the future. Have them describe their coins and then formulate questions to lead them to interpretations. Remind them not to make assumptions about their artifacts. Use the following sample questions to help them develop their interpretations.

From what material is the coin made? Are there any designs or markings on the coin? Does the coin contain a picture of someone? Who? Why? How does the person look? Does their hairstyle or clothing give any information about who they are or where and when they lived? Is the coin a religious coin? A governmental coin? For what purpose was it used? Was it valuable when it was made? Is it valuable today? Why? To whom?

C. IN SITU

An important factor considered by archaeologists is the location of artifacts within the **pit** when they are unearthed. **In situ**, meaning "in the natural or original position," refers to the original pit location of an artifact and is very important in dating both the artifact and the site. Every artifact is like a chapter in a book. If a chapter is omitted or altered, the entire story changes. Similarly, if an artifact is taken from a site, the interpretation of the site may change drastically. For this reason, archaeologists are very careful to keep all of the clues intact at the site where they are found. It is very important to know that haphazard digging by untrained people can lead to the destruction of a site and irreparable damage to that site's potential for being accurately interpreted.

One technique archaeologists use to insure that one artifact does not get confused with another artifact from the same pit is a process called **cataloging**. When artifact material is unearthed, it is placed in a small bucket or container. The container is immediately labeled with both the pit number and the depth at which the artifact material was found. The labeled container is then taken to be screened, and the contents of the container weighed, analyzed, and recorded. Each item, no matter how small, maintains its original label telling exactly where and at what depth it was found. The label information becomes one of the identifying characteristics of the artifact.

When archaeologists excavate sites, they pay particularly close attention to the **strata**, or layers of ground, in which artifacts are found. Archaeologists are able to determine a chronology of past humans and the age of artifacts by studying each layer of material in relation to the other layers of material found at the same excavation site. This study is called **stratigraphy**. Generally, the deeper in the earth an artifact is found, the older it is; it is contemporary with anything else found at the same level. Stratigraphy can only indicate relative dating of artifacts: *older than* or *younger than*. Absolute dates of artifacts are determined through a process known as **carbon 14 dating**. All living organisms, whether plants or animals, contain the same proportion of natural carbon (carbon 12) and radioactive carbon (carbon 14) as the atmosphere contains. Living organisms exchange carbon atoms with the atmosphere continually until the time of their death, when the exchanges cease. From that point on, the amount of carbon 14 they contain gradually diminishes in line with a known decrease in radioactivity. The measurement of the remaining carbon 14 can be used to determine the approximate moment of death, or when the exchange of carbon atoms stopped. Archaeologists use many other techniques to determine the age

VOCABULARY

pit—
An area of gridded ground where an excavation is taking place within an archaeological site.

in situ—
Literally, *in its situation.* In the natural or original position.

cataloging—
A process in which unearthed items are labeled to designate exactly where they were found within a site.

strata—
(s. stratum) A horizontal layer of material, especially any of several layers lying atop one another; refers to the layer of ground in which an artifact was uncovered.

stratigraphy—
The determination of the age of artifacts by the study of relative locations of the layers of material that are found in an excavation.

carbon 14 dating—
A method of dating material based on the breakdown of the radioactive carbon.

Catalogued Material at Burton Acres Shell Midden, Vashon Island, Washington, Under the Direction of Dr. Julie Stein © 1996 by Jul Wildman.

VOCABULARY

study collection— Collection of artifacts used for researching a culture or site.

Heinrich Schliemann— (1822–1890) Often called the first true archaeologist; he researched *The Iliad* to locate the ancient city of Troy; he uncovered Troy and Mycenae in ancient Greece.

The Iliad— An epic poem written by Homer, which relates the story of the Trojan War; read to Heinrich Schliemann by his father, it led Schliemann to the discovery of Troy.

Howard Carter— (1874–1939) British archaeologist who discovered King Tutankhamun's tomb in 1922 and became the most famous Egyptologist of all time.

faience— A fine grade of painted and glazed pottery or porcelain, often blue.

tell— A mound or hill; if located in an unusual area, it may be a site for excavation.

of artifacts, such as dendrochronology, thermoluminescence, archaeomagnetism, and clay varve dating. They also rely on historical records and an artifacts's relationship to other artifacts found near its location of discovery at a site.

After a site is thoroughly excavated, the artifacts found there are registered onto documents noting detailed descriptions (see Artifact Record Sheet on page 104). The artifacts are each given an identifying number and compiled into a **study collection** where other scientists can research and study them. Other artifacts may go to museums where the public can view them.

WHERE SHOULD WE START DIGGING?

Deciding where to dig is one of the most difficult decisions for an archaeologist. "Where Should We Start Digging?" introduces the four basic methods archaeologists use to determine if a site promises to be a good location for excavation. Introduce these methods to your students by presenting the following information about research, survey, accident, and rescue.

A. RESEARCH

Archaeologists study and seek information to help them select good sites to excavate. Most of their research is accomplished by reading materials other people have written, such as historical documents, geological studies, and/or interpretations of other archaeological sites. An example of how research can help an archaeologist is presented in the following true scenario:

> **Heinrich Schliemann** was a very famous German archaeologist. When he was a young boy, he read a poem titled ***The Iliad*** by Homer. Schliemann was sure that this incredible poem about a place called Troy was not fictitious. He examined every clue and city mentioned in the poem. As he researched the histories of these cities, he found that some of them were, in fact, real places. The poem's clues lead him to believe that a possible site for Troy was in western Turkey. Through his research, Schliemann found the site of ancient Troy in 1870.

B. SURVEY

The eyes of a trained archaeologist can be a scientist's greatest surveying tool. **Howard Carter**, a famous British archaeologist, knew that a **faience** cup inscribed with the name of the Egyptian pharaoh Tutankhamen had been found in Egypt in an area known as the Valley of the Kings. This area held at least thirty-three royal tombs, most of which had been previously robbed of their treasures. Carter conducted a systematic, foot-by-foot survey of this valley using his eyes to search for anything that might offer a clue. After excavating for twenty years in Egypt and for five years in the area where the cup was found, Carter discovered the tomb of Tutankhamun.

Another method of survey involves modern technology. Scientists use aerial photography, sonar, or satellites to take pictures of irregularities on the earth's surface. Archaeologists then walk these areas and survey the ground for things that seem out of the ordinary. One irregularity, called a **tell**, appears as a mound or hill in an unusual area. A tell might conceal a grave site or temple. Irregularities in the land surface often lead archaeologists to successful excavations.

C. ACCIDENT

Sometimes important discoveries occur by accident. Several significant sites have been discovered this way. For example, in 1748 the ancient Roman city of **Pompeii** was discovered by someone who was digging a well. The city had been completely covered with ash from the eruption of a volcano in 79 A.D.

Near Xian, China, two farmers were digging a well and accidentally found the tomb of **Qin Shi Huangdi**, the first emperor of China. When the tomb was uncovered in 1974, it was found to contain thousands of life-size clay soldiers.

In 1940 several teenage boys in France were hunting rabbits when their dog, Robot, suddenly fell in a hole and disappeared from sight. While rescuing Robot, the boys noticed a narrow shaft at the bottom of the hole. It led to a huge cave containing 17,000 year-old paintings, mainly of animals, at **Lascaux**.

D. RESCUE

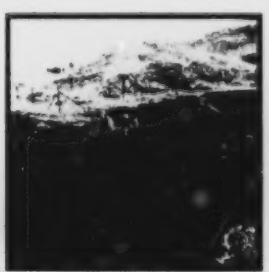
Sometimes finds occur in areas which cannot be completely excavated. During the construction of the Athens subway, many Greek artifacts were found. Rescue archaeologists quickly excavated, gathered information and artifacts, and left the site so that construction could continue.

VOCABULARY

Pompeii—
Ancient Roman city that was destroyed in 79 A.D. by the eruption of Mt. Vesuvius.

Qin Shi Huangdi—
Known as the First Emperor of China, because he brought unity to the country; China is named for him.

Lascaux—
Town in France where prehistoric caves were found containing wall paintings of animals and geometric designs produced 17,000 years ago.



Jericho Tell, Palestine © 1983 by Jack Olive.

Study Collection in Pompeii Museum Storage © by Vicki Artimovich.

Cerf Tombant, Lascaux Cave Painting © by Daniel DEBAYE, Courtesy of Office of Dordogne Department of Tourism.

Seated Scribe, Egyptian Museum, Cairo, Egypt © by Vicki Artimovich.

Activity!

Dig Boxes

GRADES: 4–8

ACTIVITY OBJECTIVES

Students will learn:

- to identify and demonstrate the various tasks of archaeologists
- that archaeologists use specific tools and methods to excavate
- that archaeologists describe and analyze their finds by compilation of data

CONTENT STANDARD: 4
Understanding the visual arts in relation to history and cultures

VOCABULARY

find—
An artifact or item found at an archaeological site.

deposits—
Layers of sand, minerals, or clay that wind or water have carried.

pit number—
A number assigned to an archaeological unit, or square grid, which serves as a way to identify the location of the artifacts found within.

excavator—
One who digs at an archaeological site.

finds' assistant—
One who cleans, labels, and tags an artifact at the site of an excavation.

potsherd/shard—
A piece or fragment of broken pottery.

curator—
One who researches, cares for, and prepares artifacts for exhibit.

conservator—
One who preserves an artifact.

SETTING THE STAGE

To prepare your students for the Dig Box activity, introduce the following background information and the related vocabulary that appears in the margins.

BACKGROUND INFORMATION

To complete an excavation, archaeologists use a variety of tools:

TOOL	PURPOSE
trowels and dental picks	to excavate and dig
brushes and tweezers	to clean, sort, and handle a **find**
rulers, calipers, and scale	to ascertain an artifact's size and weight
camera, clipboard, artifact record sheet, and pencil	to record information
survey equipment and measuring tape	to measure the site location and grids
screens	to sift **deposits** of dirt and sand in order to gather small objects such as seeds
bucket and bags	to hold sediment and material from the pit
hat, good work shoes, and gloves	for artifact and bodily protection
computer	to compile all the data about the site and its artifacts

Archaeological sites are measured into square grids, which are then assigned **pit numbers**. When artifacts, human remains, seeds, and plant materials are unearthed by the **excavator**, they are left in situ until the **finds' assistant** notes the location within the pit where these items were found and labels or tags the material. The depth and stratigraphy of the find are also recorded to help determine the age of the artifact and the site itself. Every find, even the smallest **potsherd** or seed, is labeled with its location. Museum **curators** are responsible for the artifacts once the artifacts are transported from the dig and brought to the museum or storeroom. Curators may later arrange for an exhibit of the artifacts for the general public and for other archaeologists to study. The museum curator sometimes calls in a **conservator** if artifacts "gets sick" (i.e., grow fungus or break). The conservator cleans, assembles, and preserves the artifacts for exhibition or storage.

MATERIALS

Sturdy, clear plastic storage boxes (8" x 4" x 13"), each labeled with a pit number (one box per group)

In Box:
- clean dirt and sand of various textures
- small broken ceramic pots or dishes (three complete pots per class of twenty-four) buried in the different boxes; the pieces buried in each box should vary just as the amount of artifacts found during actual digs varies
- variety of old artifacts [nails, old coins, washed and dried chicken bones, dried seeds, charcoal, reproductions of projectile points (arrowheads), and other inexpensive cultural materials]

Per Box:
- newspaper
- pencil
- plastic spoon
- large old paint brush
- Artifact Record Sheet*
- 5" x 7" picture frames with screening stapled over frame (optional)

*see Reproducible Masters section beginning on page 101 of this resource.

GETTING READY

Cover desks with newspaper. Make one copy of the Artifact Record Sheet per group of three students. Give each group a dig box, a spoon, a brush, a pencil, and an Artifact Record Sheet. Introduce the Artifact Record Sheet. Explain that a pit number is a number assigned to an archaeological unit, or square grid, serving to identify the location of the artifacts found within that unit. Have students write their pit number on their Artifact Record Sheet.

Ask your students to decide within their groups who will be the *excavator* (the person who digs the site with the spoon), the *find's assistant* (the person who records the information about the artifacts found in the site), and the *conservator* (the person who cleans the artifacts with the brush). Tell students that they may change their roles as often as they agree to do so within their groups. Have students sign their Artifact Record Sheets.

ACTIVITY

Explain the instructions for the activity. Tell your students that each group will complete an archaeological dig using the proper procedures and techniques practiced by archaeologists. Discuss and demonstrate how the excavator should use the plastic spoon to slowly and carefully dig through the box until an artifact is discovered. Tell students that as each artifact is discovered, it should be left to rest on the top of the dirt while the find's assistant illustrates and notes its location in the space provided on the Artifact Record Sheet. The [optional] small screens may be used to sift through dirt for smaller artifacts such as seeds. If students use screens, have them place the screens over a section of their boxes, and spoon small amounts of the dirt on top. Make sure they sift carefully and that the sifted dirt is returned to the

box. Demonstrate how the conservator should carefully dust each found artifact with a brush and place it in the lid of the box (to prevent the artifact from being lost or damaged). Ask students to then describe the visual qualities of their artifact. Ask each find's assistant to record the description on their group's Artifact Record Sheet. After the description has been written, ask students to study and analyze the find, speculating on its purpose and age, and finally to interpret the artifact. Have them write their interpretations on their Artifact Record Sheets.

Distribute the materials and have students work until they have found and recorded all of the artifacts in their boxes. As the digging progresses, groups of students may notice that pieces of artifacts similar to those found in their boxes are being unearthed in neighboring boxes. When their Artifact Record Sheets are complete, allow and encourage students to try to assemble their artifacts with the artifacts found by students in other groups. When they are successful, have the students in the combined groups write a description and interpretation of each of the assembled objects. Point out that their original interpretations may have changed, because they now have more complete information about their artifacts. Emphasize that each clue is important in determining an accurate history of an archaeological site.

ACHIEVEMENT STANDARDS
K–4 (b) Identify specific works of art as belonging to particular cultures, times, and places.

5–8 (b) Describe and place a variety of art objects in an historical and cultural context.

ACTIVITY ASSESSMENT

- Students are able to name and describe the various jobs associated with an archaeological dig, such as excavator, find's assistant, curator, and conservator.
- Students are able to identify the specific tools and methods used for excavation.

EXTENSIONS/CONNECTIONS

- Place the dig boxes around the room. Ask students to draw a map of the room and draw grid lines on the map to indicate the locations of each of the dig boxes.
- Divide the class into two groups. Have each half of your class create "artifacts" and bury them. Have the other half of the class excavate them.
- Use the internet to supplement your students' knowledge of archaeology. See Archaeology Hot Lists on page 133 of this resource for the addresses of some terrific web sites.

ASSESSMENT FOR CHAPTER ONE

The assessment of your students' learning should reflect the objectives of the lesson. See "How To Use This Resource" for ideas on presenting assessment.

- **Students are able to define archaeology.**
- **Students are able to explain the processes of interpreting an artifact (discovery, observation, inquiry, analysis).**
- **When given a list of items that might be found at a site (e.g., projectile points, potsherds, fossils) students are able to distinguish which items would be studied by archaeologists and which would be studied by paleontologists.**
- **Students are able to identify the different ways archaeological sites are located.**
- **Students are able to explain the appropriate procedure to follow when an artifact is found.**

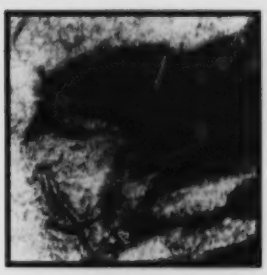
Chapter 2
Lascaux Cave Paintings

CHAPTER OBJECTIVES
Students will learn:

- to identify cave paintings
- that the Magdalenian people painted and engraved animals onto the walls of caves using natural products found in their environment
- that archaeologists analyzed information and artifacts at Lascaux to make informed interpretations about the **Paleolithic** period
- that there is a relationship between the early use of symbols and the development of written language

RIGHT BENEATH THEIR FEET

On September 8, 1940 a group of teenage boys hunting rabbits in southern France discovered the cave paintings at **Lascaux**. While the boys were hunting, their dog Robot fell into a hole and began barking. Cutting away the briars and brambles, the boys rescued Robot, and while doing so, noticed a narrow shaft at the bottom of the hole. One of the boys, **Marcel Ravidat**, dropped a stone inside and waited to hear it hit bottom far below. A few days later the boys returned with their professor and with climbing equipment to explore the cave. Inside they discovered paintings and engravings of deer, horses, and bison made over 17,000 years ago. "Our joy was indescribable," Marcel said.



Cheval Galopant, Lascaux Cave Painting, France © by Daniel DEBAYE, Courtesy of Office of Dordogne Department of Tourism.

The 600 paintings and 1500 engravings are located deep inside the large cave, some in areas that are difficult to reach and more than a mile from the entrance. The paintings and engravings range in size from four feet long to one of a bull that is over seventeen feet long. The animals are skillfully and accurately portrayed on the walls and ceilings. Called **parietal** drawings, some take advantage of the natural contours of the curves and depressions of the rocky surface, incorporating these into their own forms. The cave artists used the contours of the cave walls to add depth and dimension to the painting. The incorporation of the well's bumps and valleys within the paintings could be described as the early beginnings of **relief** sculpture. Many of the drawings were initially etched with flint stones, painted, and then etched again in areas to show more detail. Included near and around the animal images are geometric symbols and signs such as rectangles, ovals, lines, and dots which may have served as a sort of writing or as signatures of the artists.

Puits du Sorcier, Lascaux Cave Painting © Daniel DEBAYE, Courtesy of Office of Dordogne Department of Tourism.

VOCABULARY

Paleolithic—
Designating or of a prehistoric period (40,000–10,000 B.C.), known as "Old Stone Age," characterized by the use of stone tools.

Lascaux—
A town in France near which prehistoric caves were found containing wall paintings of animals and geometric designs created over 17,000 years ago.

Marcel Ravidat—
One of the boys who, in 1940, accidentally found the cave near Lascaux, France.

parietal—
Term describing artworks done on an unprepared wall, such as those found at Lascaux, France. A prepared wall would have a substance such as plaster or gesso painted first, followed by the paint of the artwork.

relief—
A form of sculpture in which a flat surface is cut away in areas (or built up in areas) creating a raised design.

Artifactoid
It is interesting to note that the period separating Lascaux from the first drawings of Cro-Magnon man (30,000 years ago) is as long as the period separating modern humans from Lascaux.

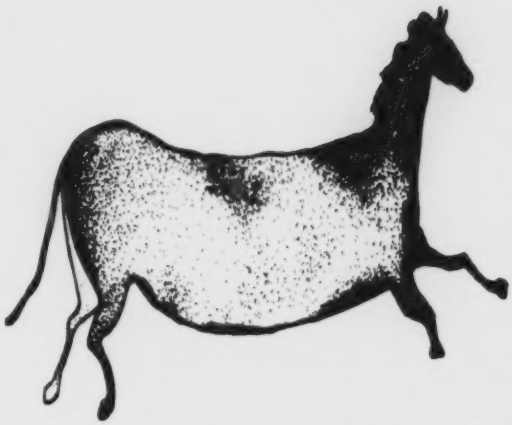
VOCABULARY

Chinese Horse—
Style of horse figure drawn on the cave walls of Lascaux, which resembles a Prjwalski's horse, a type of small horse found in the steppes of Mongolia in 1880.

twisted perspective—
A method of depicting animals and humans in such a way as to show a three-quarter view of parts of the figure while the rest of the figure is in profile. This method was first found at Lascaux where, for example, both horns and both front legs are shown on animals standing in profile.

pigments—
Coloring matter, usually in the form of insoluble powder, mixed with oil, water, etc. to make paints.

Magdalenian—
Of or relating to a late period of the Old Stone Age (25000–8000 B.C.) characterized by cave art and tools of polished stone and bone.



Chinese Horse Style Drawing © 1997 by CRIZMAC, Illustration by David Aviles.

Paintings referred to as **Chinese Horse** style paintings were found in the axial gallery at Lascaux. They were so named because of their resemblance to small horses called Prjwalski's horses, which were found in the steppes of Mongolia in 1880. The horses at Lascaux are also similar to those found in Chinese calligraphy paintings, which may, in fact, be depictions of the same type of Mongolian horse. The Lascaux cave artists painted these horses in great detail, showing them in varied colors with bristle-brush manes, short dark legs, and full, rounded bodies. Most of the animals were shown in **twisted perspective**, meaning that their bodies were depicted in three-quarter view, showing both horns, ears, or forelegs, even though the rest of their bodies are in profile.

TOOLS AND MEDIA OF THE CAVE ARTISTS

Found within the layer of sediment on the cave floor of Lascaux were many artists' tools, such as **pigment** crushers, palettes, and engravers' flint stones. Curiously, some of these items were decorated with geometric symbols similar to those found on the walls. Tests reveal traces of pigment within the etched lines, suggesting that the symbols were once painted. Evidence of oak wood scaffolding was also found in the caves, as well as formations in the rock wall where artists may have gained a foothold to paint higher wall areas and ceilings. Anthropologists suggest that the Paleolithic artists who painted the Lascaux walls were probably skilled craftsmen who were released from their daily work in order to decorate the caves. It was during this period in time, some 20,000 years ago, that the art of decorating objects and furnishings was developed.

Also found at Lascaux were pigments, made from colored rocks or minerals gathered from inside or nearby the cave. The cave artists collected these in pouches and ground them into a fine powder before mixing them with sand or clay. Red, yellow, white, and black pigments were often mixed with animal fat, blood, saliva, urine, or cave water and then made into crayons. Paint was applied using fingers or crude brushes. Brushes were made of animal hair, vegetable fibers, chewed sticks, human hair, fur, or feathers. Sometimes sponges were made by wrapping pierced animal hides around pigments.

INTERPRETING LASCAUX

Current interpretation suggests that the Lascaux cave probably served as a ceremonial gathering place for the **Magdalenian** peoples. An early theory suggested that the drawings and engravings were used as a part of a pre-hunting ceremony in which the animals were captured first in visible images (the paintings) and then again, during an actual hunt. New studies suggest that this practice was not the case at Lascaux. Anthropologists have found that the animals depicted on the walls were not of the types eaten by the Magdalenian people. They hunted and ate reindeer, as discovered through analyses of campsites and firepits in the area dating back to the same period as the paintings. There are few reindeer found among the drawings and engravings at Lascaux.

Lascaux was much like a cathedral or a mosque—where the paintings on the walls and ceiling may have had some ritualistic significance to the people who painted them. This theory is based on studies of the objects—such as over 100 sandstone **tallow** lamps—found on the cave floor and within cracks and natural shelves on the cave walls. The tallow lamps were similar in appearance to a chunky spoon. Tallow, or animal fat, was put in the hollow area and a wick of juniper stem held the flame. When lit, they were as bright as a candle.

Well-trodden areas of the Lascaux cave floor suggest large masses of people once stood there. Some areas of the walls show traces of wear that archaeologists suggest are the result of shoulders rubbing against and blurring the drawings. Although caves in general were often used as places of shelter for prehistoric people, Lascaux was never used as a home.

CARRYING POUCHES

Prehistoric people did not live in one place over extended periods of time. Because they traveled often, the items they used had to be small and easy to carry. For this reason, they probably carried pouches which contained the items considered valuable to them. These pouches may have been hung around their necks or waists to keep the contents close at hand. An item such as a flint rock was an extremely useful object to carry because, for prehistoric people, it embodied a great deal of power. With a flint rock, fire could be produced. Early artists also carried pigment rocks, which were crushed and liquefied to make paints which, in turn, were used to make powerful images of animals. **Amulets**, made from stones, clay, or plants, were also carried. These were worn as charms or as pendants that prehistoric peoples believed would remedy illnesses or ward off evil spirits.

LASCAUX TODAY

Changes of the Lascaux cave's environment following its discovery led to the growth of bacteria and algae which began deteriorating the paintings. The original cave was closed in 1963. There is now a replica of the site, Lascaux II, which is located near the actual Lascaux cave and available for tourists to visit.

VOCABULARY

tallow—
The harder and less fusible fat in cows, sheep, etc. that is melted and used to make candles, soap, etc.

amulet—
A charm, something often worn around the neck as a remedy for sickness or protection from evil.

Artifactoid

Marcel, one of the boys who discovered the Lascaux cave, served as a tour guide for many years. He was the first to notice that the breath of so many visitors and the constant lighting had changed the cave's interior environment.

Activity

Modern-Day Cave Painting

CONTENT STANDARD: 1 Understanding and applying media, techniques, and processes

GRADES: 4–5

ACTIVITY OBJECTIVES

Students will learn:

- to create a painting of an animal of their choice
- to use twisted perspective in their animal paintings
- to create symbols to represent their signature

SETTING THE STAGE

To prepare your students for the Modern-Day Cave Painting activity, introduce the background information on cave painting (pages 15–16) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Slides #501D and #503D from your *Art & Archaeology* slide set (optional)*
- large sheets of tan butcher paper (enough to cover one wall in your room)
- masking tape
- stapler
- newspaper
- newsprint paper (18" x 12" per student)
- charcoal art sticks or pencils
- four small sticks
- small amounts of fur or hair
- jute or thin leather strips

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

- students' sketches from Session One
- tan butcher paper (2' x 3' per student)
- charcoal art sticks or pencils

SESSION THREE

- red or blue berries (see Option 3 under "Mixing Paint" on page 20)
- water bowls
- small plastic bowls with lids (one per each paint color)
- powdered or liquid tempera in black, yellow, red, brown, violet, gray, white (see Options 1 and 2 under "Mixing Paint" on page 20)
- brushes, various sizes
- painting shirts (one per each student)
- newspaper
- sticks (to stir paint)
- flashlights or nightlights (optional)

GETTING READY

Clear a large wall in your classroom. Crumple newspapers into large wads and staple or tape them onto the wall in a variety of locations and at varying heights. Hang a large sheet of butcher paper over the crumpled newspaper, covering the wall area completely. In the concave portions of the wall covering, staple the paper in place to create an uneven surface. Lay newspaper on the floor area directly below the wall. Make four or more "cave brushes" by wrapping small amounts of fur or hair around the ends of sticks. Tie securely with jute or leather strips to make a brush.

ACTIVITY

SESSION ONE

Introduce the Modern-Day Cave Painting activity. Explain to your students that they will be using a variety of materials and tools to create paintings of animals in twisted perspective. Explain to them that their paintings will become part of a modern-day "cave wall" in the classroom.

Salle des Taureaux, Lascaux Cave Painting, France © Daniel DEBAYE, Courtesy of Office of Dordogne Department of Tourism.

Discussions

Display the *Art & Archaeology* poster and have your students look at the image captioned "Salle des Taureaux" and/or have them look at slide #501D from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- How would you describe the cave walls of Lascaux?
- What subjects did the cave dwellers paint on their walls?
- Are the animals on the walls small or large? Are their bodies full and robust or thin and frail? Are there few or many of them?
- Are the bodies of the animals painted with lines or solid shapes?
- Do the animals appear to be moving? If so, how did the artist create the illusion of movement?
- Do the animal paintings appear to be flat or three-dimensional? How is this effect achieved?
- Do the animals overlap?
- Are there any other types of marks or symbols on the walls? How would you describe them? What do you think they mean?
- Why do you think the cave people painted animals on cave walls?

Have your students look on the poster at the image captioned "Plafond du Diverticule" and/or have them look at slide #503D from the [optional] *Art & Archaeology* slide set. Discuss with your students the twisted perspective technique used to draw the horse. Use the following sample questions to lead the discussion:

Plafond du Diverticule, Lascaux Cave Painting, France © Daniel DEBAYE, Courtesy Office of Dordogne Department of Tourism.

- How would you describe the shape of this animal? Is it a profile? a frontal view? a combination of views?
- What is this technique of portraying a figure called?
- Is this a realistic portrayal? Why or why not?
- What is the effect of using twisted perspective? Does it suggest mass or movement?
- What is the effect of using the contours of the caves to accentuate shapes in the animals' bodies?

Ask students to make a list of possible animals they could paint as part of a modern-day cave wall. Use the following sample questions to lead a discussion:

- What animals do you like (farm, jungle, domestic)?
- Do you have a favorite animal?
- Do you have a pet? If not, what pet would you like to have?
- How is your relationship with animals in the modern world different from the relationship cave dwellers had with animals?

Preliminary Sketches
Tell your students that they will have an opportunity to make several preliminary sketches of one or more animals before they each choose a final animal they would like to depict on the "cave wall." If needed, demonstrate how to draw with charcoal. Encourage students to draw their animals with large, full shapes. Distribute the newsprint paper and charcoal sticks or pencils and allow the remaining class period for students to complete their sketches.

SESSION TWO
Distribute your students' sketches from Session One. Remind them that they will be using their sketches as guides to create larger charcoal drawings to be placed on the "cave wall" in your classroom. Remind students that, because there was little light inside of ancient caves, cave artists had to use small tallow lamps carved out of sandstone. If you wish to recreate a similar environment, turn off the lights and place flashlights in various locations throughout your classroom.

Option 1: Creating Drawings to Attach to the "Cave Wall"
Distribute a large piece of butcher paper to each student. Have students tear the outside edges of their paper to create an uneven edge. Have your students use charcoal sticks to transfer their sketched animals to the butcher paper. Remind them that their drawings on the butcher paper should be larger than their original sketches, filling the entire space of the paper. Tell students their drawings will eventually be attached to the "cave wall." Allow the remaining class period for students to complete their drawings.

Option 2: Creating Drawings Directly on the "Cave Wall"
Have your students use charcoal pieces to transfer their sketched animals directly to the "cave wall."

SESSION THREE
Review with your students how early cave artists made paint pigments by grinding various minerals, stones, dirt, and berries, and adding liquids to make paint and crayons. Prepare your students to use a variety of paints to color their drawings.

Mixing Paint
Option 1: Use pre-mixed liquid tempera that is fairly thick.

Option 2: Have students mix powdered pigments (tempera) and water in bowls in order to demonstrate how ancient cave painters used liquid to turn dry ground materials, such as minerals and dirt, into liquid paints.

Option 3: Distribute bowls and berries (blueberries work best) among your students. Demonstrate how to mash the berries in the bowl, adding drops of water, if necessary, to make a thick paint.

Painting
Set bowls of paint and brushes in designated areas of the room. Place a label on each bowl, specifying the color to which it corresponds. Explain to students that they should use one bowl at a time, returning it to its designated area before taking another color.

Show students the "cave brushes" and allow them to use these for their paintings, if desired. Allow the remaining class period for students to complete their paintings, using one of the following options:

Option 1: Creating Paintings to Attach to the "Cave Wall"
If students are using individual pieces of paper for their animals, have them paint on their drawings and attach their finished paintings to the cave wall (after the paint has dried). They may choose to overlap their paintings in some places. Next have students create a symbol that represents their name and paint it on or near their painting. Finally, have students add additional designs to complete their modern-day cave painting.

Option 2: Creating Paintings Directly on the "Cave Wall"
If students are painting directly onto the "cave wall," remind them not to set their paints on the floor beneath the "cave wall" where they will be moving as they paint.

ACTIVITY ASSESSMENT

- Students are able to identify and draw animal forms with twisted perspective.
- Students are able to identify and create a symbol.

ACHIEVEMENT STANDARDS
K–4 (a) Know that the visual arts have both a history and specific relationship to various cultures

5–8 (c) Analyze, describe, and demonstrate how factors of time and place (such as climate, resources, ideas, and technology) influence visual characteristics that give meaning and value to a work of art

Activity

Painter's Pouch

CONTENT STANDARD: 5
Reflecting upon and assessing the characteristics and merits of their work and the work of others

GRADES: 5–8
ACTIVITY OBJECTIVES
Students will learn:

- to create a pouch and decorate it with a symbol that has personal meaning to them
- to create positive space and negative space within their pouch designs

SETTING THE STAGE

To prepare your students for the Painter's Pouch activity, review the background information on pouches (page 17) and the related vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- cardboard circle template (8" to 10")
- pencils
- squares of fake suede material (12" squares, one per student)
- scissors
- leather punch or pointed item to make holes in pouches for lacing

SESSION TWO

- newsprint (8-1/2" x 11" per student)
- leather circle cut-outs made during Session One
- strands of black or brown gimp or similar leather-like string cut into 12" strips (one string per student)
- permanent markers in black, red, and yellow
- beads, feathers, sequins, shells, and other materials for embellishment
- craft glue, thread, needles, glue gun (optional)

ACTIVITY

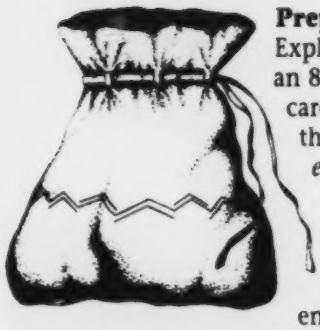
SESSION ONE

Introduce the Painter's Pouch activity. Explain to your students that they will be using a variety of materials and tools to create and decorate pouches with symbols that have personal meaning to them.

Discussion

Lead your students in a discussion using the following questions as a guide:

- What items would be useful for an ancient cave dweller to carry?
- What are some of the ways these items could be stored and transported?
- What are some common items that people carry with them today?
- What are some of the ways that people carry these items?
- How are the items that we carry today similar to or different from items carried by prehistoric people?
- If you had a pouch, how would you decorate it? What symbols could you use that have personal meaning to you? Would your symbols represent the special objects you would carry inside your pouch? If so, in what way?



Preparing the Pouch
Explain and demonstrate how to begin making a pouch. Trace an 8" to 10" circle onto a piece of fake suede using the cardboard circle template and pencil. Cut out the circle from the material. Using a leather punch or pointed item, make an *even* number of holes about 1" apart around the perimeter of the material, 1/4" away from the edge. With the 12" strand of gimp, demonstrate how the strand should be woven through the holes *after* the decorations are applied. Weave in one hole and out the next until you have laced the entire circumference of the fabric. Pull the strand taut to show students how the laced fabric becomes a pouch. Distribute all the materials (except the gimp or string) to your students and allow them to cut and hole-punch their suede circles.

Planning the Design
After their pouches are cut and punched, have your students trace around a circle template onto sheets of newsprint. Have them sketch within their circles the designs they will use to decorate their pouches. Tell your students that their designs should incorporate a **symbol** or symbols that have personal meaning to them. Introduce or review the concepts of **positive** and **negative** space, and ask your students to use positive and negative space in their designs. Check your students' designs for their understanding of the concepts.

SESSION TWO
Distribute the gimp or string and decorating materials and tell your students they will be drawing, sewing, and/or gluing the finishing decorations to their pouches.

Personalizing the Pouch
Have students transfer their sketched designs onto their suede circles. Introduce decorating materials for them to use. Encourage your students to use a variety of media and to take the time to carefully decorate. When they have finished their designs and decorations, students should complete the construction of their pouches by lacing gimp or string through the punched holes of their fabric and pulling the strands taut. Finally, ask students to select a few special human-made or natural items to carry inside their pouches.

ACTIVITY ASSESSMENT

- Students are able to construct and decorate a pouch with a symbol that has personal meaning.
- Students are able to identify and use positive and negative space in their designs.

EXTENSIONS/CONNECTIONS

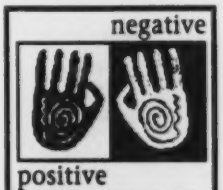
- Have students list items which would be carried in pouches by people of various eras and historical periods and compare and contrast their lists. Examples of historical eras could include: ancient Egypt, the periods of Civil or Revolutionary War in the United States, the Renaissance or Middle Ages in Europe, or the 1960s. Have students also include a description of how the decoration on the outside of the pouches would change for each era.
- Have students make small artifact items to carry within their bags (e.g., clay figurines or animals, carved toys, whistles, etc).

VOCABULARY

symbol—
Something that represents or stands for something else.

positive space—
Design concept of the main figure or subject in an artistic composition.

negative space—
Design concept of the bacground or *ground* in an artistic composition.



If necessary, illustrate on a chalkboard or bulletin board the use of positive and negative space.

ACHIEVEMENT STANDARDS
K–4 (a) Understand there are various purposes for creating works of visual art

5–8 (a) Compare multipurposes for creating works of art

AESTHETIC INQUIRY FOR CHAPTER TWO

Aesthetic inquiry involves students in the perception, understanding, and appreciation of works of art. When we involve our students in aesthetic inquiry, we challenge them to consider important questions, sometimes referred to as the "big questions" that concern art in general. These questions may have many answers, depending on your point of view. It is important to raise these issues with your students, because such issues have the potential to deepen their understanding and appreciation of art. The concepts in the following questions are suitable for students of all ages. You may choose to rephrase some of these questions depending on the age level of your students.

1. Do you consider cave paintings to be art in the same way paintings in a museum are considered art? Why or why not?
2. The cave artists painted animals for specific purposes. Do you think art can or should have a purpose? Why or why not?
3. The cave artists used all-natural materials to create their paintings. Do you think the materials an artists uses affect the value of his or her work? Why or why not? If not, what does determine the value?

ASSESSMENT FOR CHAPTER TWO

- Students are able to define and discuss the vocabulary presented in the chapter.
- When shown various paintings of animals, including examples of cave art, students are able to identify which paintings are cave art.
- Students are able to identify the Lascaux caves, the subject matter of the paintings, and the media/techniques used to produce them.
- Students are able to discuss how the information and artifacts discovered at Lascaux help archaeologists make informed interpretations about the Paleolithic period.
- Students are able to discuss the relationship between the use of symbols and the development of written language.

Chapter 3
Life Along the Nile

CHAPTER OBJECTIVES
Students will learn:

- that concern for the dead and the concept of an afterlife were highly important to ancient Egyptians
- that Egyptian pyramids evolved from mastabas and step pyramids in response to the development of Egyptian dynasties
- that the ancient Egyptian belief in an afterlife inspired the creation of many funerary objects and structures
- how and why mummification and other funerary traditions among the ancient Egyptians came into practice
- that funerary objects and structures of ancient Egyptian culture have led archaeologists to specific interpretations about the ancient Egyptians
- how ancient Egyptian hieroglyphics were deciphered to reveal information about the past
- that hieroglyphics and narrative paintings served both decorative and utilitarian purposes in ancient Egypt

THE BIRTH OF EGYPT

About seven or eight thousand years ago, before the beginning of recorded history, people began to settle along a great winding river in the vast northwestern desert of what is now Africa. Today, we call this river the Nile; it flows through the country of Egypt and is famous the world over, because it is the longest river on earth. The ancient people who settled along the banks of the Nile lived comfortably. Because the Nile flooded each year and left behind a rich layer of mud when it receded, the Egyptian soil was exceptionally fertile. Ancient Egyptian farmers benefited year-round from the Nile by digging irrigation ditches to channel its water to their fields. People along the Nile were protected from invasion by deserts to the east and the west; by the Mediterranean Sea to the north; and by the Rocky Nile Waterfalls to the south. It was an exceptional land—sunny, fruitful, and secure. Because people along the Nile were geographically isolated—and all of them dependent on the Nile—they all needed to cooperate with each other in order to control annual flooding. This cooperation was instrumental in leading to an organized government early n Egyptian history.

Artifactoid
Sometimes when the sun shines down through the clouds, the rays form a pyramid or triangular shape. The Egyptians saw this as a sign from the sun god, Ra, and built their tombs in the shape of the sun rays. Maybe that's why the word ray is a lot like the name Ra.

THE POINT OF THE PYRAMID

The Egyptians believed in life after death. Beginning in very early Egypt (3100–2700 B.C.), the people buried their dead with items such as food, tools, and water to help the deceased in the afterlife. They buried them in shallow graves, marked with stones, underneath the hot, dry sand of the desert. Little did they know that the heat and lack of

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Note: The exact dates of the different dynasties are not known.

CLASSIFICATION OF EGYPTIAN DYNASTIES	
	Old Kingdom (c.2700–2200 B.C) = Age of the Pyramids
	Middle Kingdom (c.2050 –1700 B.C.) = Period of Expanded Political Strength and Trade
	New Kingdom (c.1570–1069 B.C) = Egypt's Zenith as a Political Power

VOCABULARY

pharaoh—
The title given to rulers of the ancient Egyptian kingdom. The word, in Egyptian, literally means "great house."

dynasty—
A family of rulers related by blood.

pyramid—
Four-sided, triangle-shaped structure. Pyramids were used for burials of pharaohs in ancient Egypt.

mastaba—
Bench-like mound of earth and mud built over a burial chamber; used by the early Egyptians.

step-pyramid—
Used for tombs; made of successively smaller mastabas placed one on top of another.

King Djoser—
A Third Dynasty ruler whose step-pyramid tomb and funerary complex was built at Saqqara around 2650 B.C.

vizier—
A high executive officer, minister, or council of state.

Imhotep—
Vizier to King Djoser; Egyptian architect who built step-pyramids out of stone. Prior to his work, most structures were made of mud brick; Imhotep was also the first artist to have his name appear in recorded history.

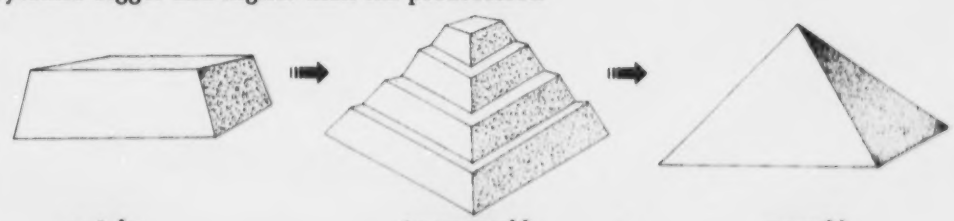
moisture in the ground would act as preservatives; rather than decaying, the skin and organs of buried bodies merely dried. When the Egyptians discovered this natural method of preservation, they began trying to improve upon it. First, they added animal hides or straw lining to the graves. Later, a crude floor and walls of sun-dried bricks were added.

During this time, Egyptian population was growing and prospering. Villages evolved into regions, regions evolved into two kingdoms, and ultimately, the two kingdoms united to form a single Egyptian kingdom. The rule of the kingdom belonged to a king, or **pharaoh**, who in death was succeeded by a blood relative. A family of Egyptian rulers related by blood is known as a **dynasty**. Egyptian dynasties have been classified into three groups based on the time periods in which they existed: the Old Kingdom (c.2700–2200 B.C.), the Middle Kingdom (c.2050 B.C.–1700 B.C.), and the New Kingdom (c.1570 B.C.–1069 B.C.). These kingdoms were marked by great stability, wealth, and power. The weaker periods that fell between the Old, Middle, and New Kingdoms are known as the intermediate periods.

Pharaohs held a double role for the Egyptians: that of a ruler and of a god. Pharoahs were considered the sons of Amon Ra, the sun god, and therefore the incarnation of him on earth. Because pharoahs were so revered, the question of how they would be buried after death became a great concern for Egyptians. A pharaoh certainly could not be buried in a shallow grave like that used for a commoner! Egyptians believed in an afterlife, and they believed that in that afterlife, a pharaoh would join with other gods to watch over their lives and seek favor for them in the heavens. Because of this belief, great care was taken to insure that pharaohs lived as richly in the afterlife as they did on earth. Hence, Egyptians began to devise more suitable, elaborate burial chambers for their pharaohs.

Artifactoid
The step-pyramid of Djoser had six mastabas atop one another and is the oldest stone building of its size in the world.

Pharaohs were sometimes buried in large, four-sided, triangle-shaped structures called **pyramids** that housed all the supplies a person could possibly need in the afterlife. Pyramids began as **mastabas**, or bench-like burial chambers. Over time, mastabas were placed on top of mastabas to create **step-pyramids**, such as that built for **King Djoser** in 2600 B.C. at Saqqara in Egypt. Djoser's architect and **vizier**, a man named **Imhotep**, is credited with the creation of this stone step-pyramid and its accompanying burial buildings, which were both functional and architecturally expressive. Step pyramids gradually grew into the traditional Egyptian pyramids as each successive pharaoh tried to build his step-pyramid bigger and higher than his predecessor.



mastaba step-pyramid pyramid

The three most famous pyramids were built on the western bank of the Nile at a place called **Giza**. The western bank was where burials took place. There, Egyptians saw the sun set, beginning its nightly journey to the underworld. They believed that under the ground there was another sky, an upside-down world, so it seemed fitting to bury their dead there. Built around 2500 B.C., the pyramids at Giza are considered one of the **Seven Wonders of the World**. The largest of the pyramids, called the Great Pyramid, was commissioned by a pharaoh named Khufu. It was constructed out of 2,300,000 stones—some of them weighing as much as fifteen tons—covering twelve acres and rising fifty stories high. Many stones actually have writings carved into them saying such things as "this side up" or "this stone was carved by" (followed by a name or names of workers). Today the pyramid of Khufu, the largest manmade stone building in the world, is 451 feet high; it is continuously being worn away by the elements.

The Seven Wonders of the World

- The Great Pyramid at Giza
- Pharos of Alexandria
- Colossus of Rhodes
- Mausoleum of Halicarnassus
- Statue of Zeus
- Temple of Artemis
- Babylon

Pharoahs of the three Fourth Dynasty pyramids at Giza.	
Khufu	2650 B.C.
Khafre	2600 B.C.
Menkure	2575 B.C.

At the base of the three pyramids at Giza are tombs of the pharaohs' wives, architects, artists, military commanders, judges, and others of importance. The famous monument called the **Sphinx** is also found nearby. The Sphinx, which is older than the pyramids at Giza, is an enormous statue of a mythical creature with a human head and the body of a lion. It has been suggested that its face is meant to be that of the pharoah Khafre, but no one knows for sure. The present head may actually be a newer addition, since the body is older.

The entryway to the burial chamber of an Egyptian pyramid was always built to face the North Star, because it never seemed to move throughout the year. The two shafts from the king's burial chamber in the Great Pyramid at Giza each point to constellations. The northern shaft points to the North Star, while the southern shaft opens to Orion, an important constellation in the Egyptian religion. The four sides of pyramids were shaped as perfect triangles and coated with smooth limestone, which in the correct light, shone like gold. There were no pack animals in ancient Egypt, so archaeologists, based on all the clues available to them, believe that the pyramids were built using human labor and mud ramps. Stones used to build the pyramids, once thought to have been transported down the Nile on barges, were located in 1992 in a quarry close to the base of the pyramids. Around 500 years ago, most of the outer layers of the pyramids' stones were stripped off to build Arab mosques as well as homes and buildings for people in the surrounding city.

In 1987, the remains of a village of artisans, laborers, and paid master builders were uncovered near the Great Pyramids at Giza. These workers, some of whom were very knowledgeable in mathematics, built the huge monuments for their kings over a thirty to forty year time period, as a kind of national project to guarantee everyone's success in the afterworld. The workers believed that if they did a good job for the king (whom they saw as a god), he would be pleased in the afterlife and seek favor for them with the other gods.

VOCABULARY

Giza—
A plateau area near the mouth of the Nile, famous for the three large pyramids that are built there.

Seven Wonders of the World—
A list of ancient world achievements compiled by a Greek historian.

Sphinx—
An Egyptian statue, or figure, having the body of a lion and the head of a man.

VOCABULARY

ka—
In the Egyptian religion, one of several forms of the spirit of a person.

mummy—
The preserved body of a person or animal. The term was first used to describe the bandaged bodies of ancient Egyptians, but any dead body that still has skin on it is a mummy.

mummification—
A process of preserving animal or human remains by drying their bodies with herbs, oils, and spices; often part of a religious ritual for the dead.

ba—
In the Egyptian religion, one of several forms of the spirit of a deceased person; said to be able to leave the tomb during the daytime, taking any form it liked.

uswabtis—
(sometimes spelled "ushebti" or "swabti") Egyptian clay, wood, or stone figurines of people or slaves buried with pharoahs. They were believed to come to life in the afterworld to help their masters. The term comes from the Egyptian word meaning "answerer."

Howard Carter—
(1874–1939) British archaeologist who discovered King Tutankhamun's tomb in 1922 and became the most famous Egyptologist of all time.

Valley of the Kings—
A traditional burial area reserved for Egyptian royalty located on the west bank of the Nile.

IN THE TOMB

The Egyptians believed that there were certain spirits or components that comprised every individual's being. The **ka** was thought by Egyptians to be a person's life force, a sort of spiritual double or twin to the person it inhabited. The ka was believed to be created at the time of a person's birth, and released from their body after their death. When an individual died, a precise likeness of that individual was created to be placed within the tomb so that the ka would have a place to reside. Sometimes a statue was used for this purpose, but a **mummy**, prepared by **mummification**, was considered best. The ka was thought to always stay in the tomb with the body so that the deceased person could live on in the afterworld.

The **ba**, a second component to a person's being, was believed to be that which made a person individual—much like the concept of a character or personality. The ba was thought to leave the body after an individual's death and travel to the underworld, where it was expected to endure a series of trials and face judgement for the individual's acts during life. The ba was often depicted as a hawk with the head of a man, but Egyptians believed it to have the ability to take any shape it desired. Unlike the ka, the ba could leave the tomb at will, but always returned at night, because it was considered important for both the ba and the ka to inhabit the body (or likeness of the body) in order for the deceased individual's being to live on. Like the ka, the ba needed to be able to find its appropriate body: without a statue or mummy of the dead person, the ka and ba would not be able to survive, and there would be no afterlife.*

Deep inside each pyramid was a pharaoh's lavish tomb. The elaborate burial of a pharaoh was intended to insure the preservation of the body, the ba, and the ka until the end of time, as well as to insure that the pharaoh enjoyed the same luxuries and riches in his afterlife as in his life on earth.

Egyptians buried their dead with clay figurines of people, called **uswabtis**, that were intended to do the menial tasks and chores required for the deceased individual to live comfortably. Some tombs had hundreds or even thousands of figurines. Uswabtis came about during one of the intermediate periods of Egypt when the noble classes were not as wealthy. These noble classes wondered how the gods would tell them apart from the working class if they all needed to work. The uswabtis were therefore created to do the work for the nobles in the afterlife. Eventually, the working class also picked up on the idea and began using uswabtis, as well. Aside from uswabtis, many other objects were buried with the dead. If people did not have the finer luxuries while living in this world, they could at least have them in the afterlife, provided that representations of those things were placed in their tombs. It was believed that all of the items buried with the dead would come to life in the next world.

TREASURE OF THE BOY KING

In 1890 a young British archaeologist named **Howard Carter** went to Egypt to work as an artist; he was paid to copy tomb paintings, but dreamed of finding an undisturbed tomb in a place called the **Valley of the Kings**. Valley of the Kings was a traditional burial area in Egypt reserved for royalty and used for over five hundred years (1550–1020 B.C.).

By the time of the Middle and New Kingdoms of Egypt, tombs of nobility were no longer in pyramids, because these were too easy to find and loot. Instead, tombs were built within rocks in the Valley of the Kings and other areas near the west bank

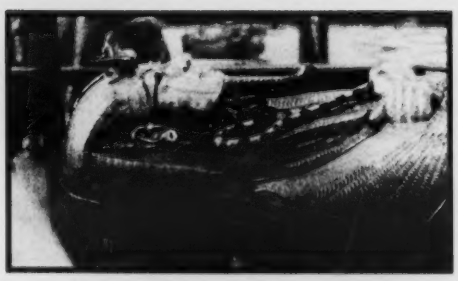
*The ba and the ka are closely related, and the distinction between them has not yet been clearly deciphered.

Artifactoid

In 1987 a huge tomb called "KV5" was discovered in the Valley of the Kings. It contains Pharaoh Ramses II with at least forty-eight of his children. It was the first family mausoleum ever found in Egypt. There are still thousands of mummies yet to be discovered, and each one along with their artifacts can tell scientists a great deal about life in ancient Egypt.

of the Nile. Although there were many hidden chambers and false doors built around the tombs in this area to deter robbers and possibly evil spirits from disturbing the bodies of the pharaohs, most tombs were eventually found and robbed. However, one of these tombs, "Tomb 62," was kept safe from thieves. For a long time, the entrance to the tomb had been covered by cast-off material and the huts of laborers constructing the tomb of Ramses VI nearby. Tomb 62 was eventually discovered in 1922 by Howard Carter. It is the tomb of a pharaoh named **King Tutankhamun**, also known as the "boy king" or "King Tut." He ruled from the age of nine to nineteen (c.1333–1323 B.C.) and appeared to have died early as evidenced by the size and layout of his hastily built tomb. It is not known why he died at an early age, but there is evidence that his skull may have been injured.

How did Carter find Tut's tomb? He knew that in 1907 archaeologists had discovered linens from Tutankhamun's embalming ceremony and pots from his funerary banquet in the Valley of the Kings. He also knew that a **faience** cup bearing King Tut's name had been found in the same area; Carter believed that Tut's tomb must be nearby. He systematically surveyed the area, foot by foot, and eventually decided where to excavate, but was unable to do it because of the tourist traffic. After six years of digging a short distance away, Howard Carter finally uncovered the tomb of the "boy king." He discovered sixteen steps which led to the entrance of Tut's tomb. "I inserted the candle and peered in... At first I could see nothing. But presently, as my eyes grew accustomed to the light... gold, everywhere the glint of gold," Carter wrote of the opening of the tomb.*



King Tutankhamun's Coffin Cover, Egyptian Museum, Cairo, Egypt © by Vicki Artimovich.

Over 3,000 artifacts were crowded into Tut's relatively small tomb, which measured 935 square feet. These artifacts included his mummified body, seven boats, a lock of his grandmother's hair, a child's chair, and over 2,500 pounds of gold objects. King Tut's mummy lay inside one of three wooden coffins, nested within a larger **sarcophagus**. The sarcophagus was made of stone to assure Tut's safe passage into the next world. His head was covered with a gold mask. From analyzing the artifacts and art in Tut's tomb, archaeologists have learned a great deal about the lives of the ancient Egyptians. **Hieroglyphic** inscriptions throughout Tut's tomb explain that the artifacts were personal items and gifts to the gods. King Tutankhamun's mummy still rests in its original tomb in the Valley of the Kings, as was Howard Carter's wish.

THE WRITING ON THE WALL

Hieroglyphics, from a Greek word meaning "sacred writing," began as a picture-based method of recording information. Hieroglyphic writing is composed of about seven hundred symbols, twenty-four representing a single consonant sound, and

**The Tomb of Tut-Ankh-Amen*, Carter, Howard and A.C. Mace. London, 1923–33.

VOCABULARY

King Tutankhamun— Egyptian pharoah of the Eighteenth Dynasty. His tomb was virtually undisturbed when discovered in 1922 by Howard Carter.

faience— A fine grade of painted and glazed pottery or porcelain, often a greenish-blue color, used in Egyptian sculpture and jewelry.

sarcophagus— *(pl. sarcophagi)* A stone coffin, especially one bearing sculpture or inscriptions, and often displayed as a monument.

hieroglyphics– An ancient, formal, monumental writing using symbols to represent words or sounds; developed in 3100 B.C. by the Egyptians.

VOCABULARY

obelisk—
A tall, slender, four-sided pillar, gradually tapering as it rises, with a pyramid-shaped top. The shaft of an obelisk was made from one block of stone, and was often decorated with inscriptions and hieroglyphics. Obelisks were erected in honor of persons of distinction.

papyrus—
(*pl. papyri*) A kind of paper made from the stalk of the papyrus plant, which grew along the Nile River. Papyrus was used by Egyptians, Greeks, and Romans. Also refers to any ancient manuscript or document on papyri. The word "paper" was derived from this term.

scribe—
A person who copied manuscripts before the invention of printing.

hieratic—
An everyday writing used by the ancient Egyptians; the ancient equivalent to modern-day cursive.

registers—
Columns and/or rows of symbols or characters.

cartouche—
An oval figure on ancient Egyptian monuments and in papyri, containing sets of characters expressing a name or title of a king or deity.

Book of the Dead—
A guide book of hieroglyphics on papyrus that gave instructions for life after death.

others representing syllables of two or more consonant combinations. There were originally no symbols for vowel sounds. The Egyptians used phonograms, or word-picture combinations, to insure correct translation of their hieroglyphic writings. For example, the Egyptian word *tehken*, meaning **obelisk**, would be written with hieroglyphics symbols representing the sounds T + K + N. These hieroglyphic symbols would be followed by a picture of an obelisk in order to assist the reader in understanding the correct meaning of the combined hieroglyphic symbols.

The Egyptians drew inspiration for their hieroglyphics from items in nature, such as flowers, animals, the sun, the moon, water, or representations of gods. Hieroglyphics were written mainly from right to left on **papyrus** paper with a reed pen. They were also carved and colorfully painted from left to right and up and down on walls and monuments. Hieroglyphics were written with no punctuation and no spaces between words, which made them difficult to decipher. The symbols/creatures used in hieroglyphics usually faced the starting point of the writing, so the reader could know from which direction to begin reading. Vertically positioned registers were read from the top down. Hieroglyphics were believed by Egyptians to have the power to speak to the gods in the next world, as well as to the Egyptians' dead ancestors. The intricate ancient writing was as much an artform as a means of expressing ideas and conveying information.

Very few Egyptians knew how to read and write four thousand years ago. Children learned from their parents or the elders in their village, not from books. Only boys went to school, some of them to become **scribes**. Egyptian scribes, who were highly educated and respected, wrote hieroglyphics onto papyrus, stone tablets, or the walls of temples and tombs. In fact, Egyptian scribes painted hieroglyphic symbols on just about everything. To put hieroglyphics on tomb walls or monuments, the text was first written by one scribe in **hieratic**, an everyday cursive-style of writing, then translated to hieroglyphics, then corrected by another scribe. Next, a sculptor would carve a design, which would be verified by a scribe and ultimately painted by an artist. The scribes were thought to be watched over by the Egyptian god "Thoth," who was often painted as a bird-headed man carrying a palette.

While viewing hieroglyphics written on tomb walls and monuments, archaeologists noted that some symbols were written in **registers**. That is, they could be read like comic strips—in rows or columns. Within these registers, some hieroglyphics were wrapped in an oval frame. Archaeologists discovered that symbols inside of such a frame, called a **cartouche**, represented the name of someone with prestige or nobility. This discovery helped archaeologists to decipher other hieroglyphic symbols and inscriptions, as well.

Hieroglyphics carved inside pyramids, called "pyramid text," were intended to guide the dead in the next life, offering information about what a person should know and do there. The cartouche, or name of the dead person, was written many times on the tomb walls and sarcophagus, so as to give that person power and make sure that he or she would not be missed by the spirits on the trip to the next world. Along with a person's cartouche, hieroglyphic spells were written on the linen wrappings of their mummy coffin. These spells were intended to ward off evil spirits. If inclined, Egyptians could also purchase, for half their year's salary, a papyrus scroll called the "**Book of the Dead**," which was a guidebook to the next world.

THE ROSETTA STONE

For hundreds of years, visitors to Egypt admired the ancient hieroglyphic writings in the tombs, though no one could decipher them. In 1798, Napoleon's French army

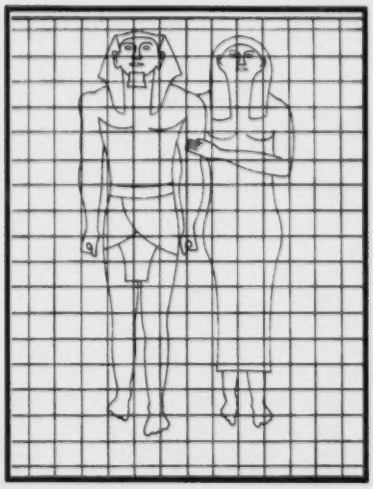
came to conquer Egypt. While rebuilding a fortress near a town called Rosetta, a French soldier uncovered a large (118cm X 77cm), 1500 pound, black stone **stele**, which contained three kinds of carved writing: ancient hieroglyphics, Egyptian **demotic**, and ancient Greek. This stone turned out to be a great archaeological discovery—the key to deciphering hieroglyphics!

In 1821, after studying the **Rosetta Stone** for twelve years, a thirty-two-year-old Frenchman named **Jean-Francois Champollion** finally broke the code and could read all three of the ancient writings. In the hieroglyphic section, he noticed an oval frame containing symbols. Champollion found the place in the Greek section that corresponded with the oval; the Greek text said the name "Ptolemy V," a pharaoh who was descended from a Greek general. Guessing that the symbols in the oval on the corresponding hieroglyphic section must also have been the name of Ptolemy V—his cartouche—Champollion discovered a major clue that helped him break the code of hieroglyphics. The writings were a thank you note from priests praising Ptolemy V. Because of Champollion's hard work, the voices of ancient Egyptians can be heard today, and archaeologists are able to reconstruct a more accurate history of ancient Egyptian civilization.

WALL PAINTINGS

In addition to the hieroglyphics that appear on their walls, Egyptian tombs are highly decorated with wall paintings. Because of the dry climate in Egypt, many of these paintings have been well-preserved. From these paintings, archaeologists have learned many interesting facts about ancient Egyptian life, such as what species of birds lived 3,000 years ago and what kinds of garments the people wore. Brightly painted **intaglio** scenes incorporating yellow, red, green, white, black, and blue paints remain. Even graffiti from conquering armies and tourists from long ago are still visible.

Egyptian artists first sketched their paintings on fragments of pottery or stone, which were gridded (see illustration below) so that the sketches could be transposed and enlarged on the walls of the tombs. The paintings were usually **narrative paintings** that reflected an idealized life of hunting, farming, and parties. However, ancient Egyptian artists could not paint with the freedom of today's artists. They followed certain rules, or a **canon** of proportions, when painting royalty and various gods. Kings and queens were depicted as healthy and young, usually around twenty-three years old. They were painted larger than the people around them.* Bodies were painted to follow a form of twisted perspective similar to that used for the painted cave animals at Lascaux. The faces of royalty were always depicted in profile, but with the eye appearing to look directly at the viewer; this effect is called a **frontal eye**. The upper part of the body—the torso—also faced the viewer, while the rest of the body was drawn in profile. The people who were painted following this canon were probably wealthy or famous people. Such people were



Gridded Artwork

Frontal Eye

VOCABULARY

stele—
An upright stone slab or pillar engraved with an insciption or design.

demotic—
Simplified form of ancient Egyptian hieratic, used in the seventh century B.C.

Rosetta Stone—
A tablet of black basalt found in 1798 at Rosetta, a town in Egypt. Because it bore parallel inscriptions of ancient Greek, Egyptian demotic, and hieroglyphic characters, it provided a key to the deciphering of hieroglyphics.

Jean-Francois Champollion—
(1790–1832) French Egyptologist who broke the code of hieroglyphics after twelve years of studying the three writings on the Rosetta Stone.

intaglio—
Relief carving, typically in sculpture.

narrative painting—
Artwork that tells a story or recalls an event.

canon—
A law or rule, in general. Ancient Egyptian painting followed a canon of proportions for portrayal of deities and royalty.

frontal eye—
In paintings and drawings done in Egyptian style, the head is drawn in profile while one eye—the frontal eye—directly faces the viewer.

VOCABULARY

fresco—
Method of painting on a wall or ceiling into either damp plaster (*buon fresco*) or dry plaster (*fresco secco*).

Temple at Karnak—
Largest and best known temple in Egypt.

Hypostyle Hall—
Addition to Temple at Karnak made by commision of Seti I and his son Ramses II.

Luxor—
Location of a temple designed by Amenhotep III and dedicated to the Egyptian god Amon Ra.

probably depicted following this canon so that they would be easily recognized by the spirits, who were thought by the Egyptians to guide the dead through the underworld to the next life. Ordinary people were painted in a different, more natural and realistic way.

*See the reference page, the "Fowling Scene" in the Reproducible Masters section at the end of this book. It was taken from a wall painting in the tomb of Amenemheb, at Thebes. The actual "Fowling Scene" is a **fresco** painting of the pharaoh Nakht (1450–1400 B.C.) hunting birds. The smaller figure below him may be his wife sitting in a papyrus boat. Note that she is drawn in the same canon, but in smaller proportion, because she was considered less important than the pharaoh.

TEMPLES

The temples of the Egyptians were massive walled structures laid out on one level and almost always made of sandstone. Unlike pyramids, they were designed to be looked at and enjoyed from the inside. Egyptian temples, which were used for ceremonial occasions, were always composed of these basic features:

PYLON	**two truncated pyramids forming a gateway, to discourage intruders**
COLONNADED COURT	**roofless area used for the public (the public could not go beyond the colonnaded court)**
COVERED HALL	**very high ceiling borne atop sandstone columns**
PRIVATE SANCTUARY OF THE GOD/PHAROAH	**concealed behind walls and surrounded by service chambers**

The largest and best known of the temples is that of the **Temple at Karnak**, begun in 2000 B.C. It was built over a long period of time, and various structures were added to its complex through the commissions of several different pharoahs. The Temple at Karnak was dedicated to the Egyptian god Amon Ra and is located on the east bank of the Nile just north of Thebes. The basic features of this temple were laid out by Tutmose I, Queen Hatshepsut (a female pharoah) and Tutmose III. Seti I and his son Ramses II added the great **Hypostyle Hall** (Greek for "resting on pillars"). The Hypostyle Hall includes 134 pillars, standing like giant trees, with hieroglyphic inscriptions and paintings depicting the pharoah worshipping the sun god Amon Ra. Columns were decorative as well as functional; they were used to support the buildings.

There is another temple dedicated to Amon Ra, about two miles south of Karnak near the town of **Luxor**. This temple was built in the same format as the Temple at Karnak, with the majority of the design overseen by the pharoah Amenhotep III, but all the buildings are not aligned. Over the time it took to make the various additions to the temple, the Nile shifted its course and the layout of the temple, which is set along the Nile banks, had to be adjusted accordingly.

Activity

Hieroglyphics

CONTENT STANDARD: 6
Making connections between the visual arts and other disciplines

GRADES: 4–8

ACTIVITY OBJECTIVES

Students will learn:

- to identify and describe hieroglyphic writing
- to identify and describe a cartouche
- to write information and translate sounds into hieroglyphic symbols
- to create a design incorporating hieroglyphic writing in registers, a cartouche, and a decorative border

SETTING THE STAGE

To prepare your students for the Hieroglyphics activity, introduce the background information on Egyptian hieroglyphics (pages 29–30) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Slide #502S from your *Art & Archaeology* slide set (optional)*
- Egyptian Hieroglyphics reference sheet**
- newsprint (8-1/2" x 11" per student)
- pencils

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

**See Reproducible Masters section beginning on page 101 of this resource.

SESSION TWO

- newsprint paper (8-1/2" x 11" per student)
- pencils
- rulers

SESSION THREE

- papyrus-style paper (8-1/2" x 11" per student)
- black markers (one per student)
- variety of colored markers
- rulers

GETTING READY

Make one copy of the Egyptian Hieroglyphics reference sheet for each student.

ACTIVITY

SESSION ONE

Introduce the Hieroglyphics activity. Explain to your students that they will be using hieroglyphic writing to create a design that includes a decorative border and a cartouche of their name.

Hieroglyphic Wall with Cartouches, Egyptian Tomb, Egypt
© 1966 by Paul Wildman.

Discussion
Display the *Art & Archaeology* poster and have your students look at the image captioned "Hieroglyphic Wall with Cartouches" and/or have them look at slide #502S from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

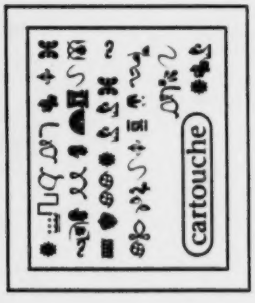
- How would you describe the lines and shapes used to create hieroglyphics? Are the shapes simple or complex? Are the lines thin, thick, curved, straight, etc.?
- How are the designs similar? different?
- What are the most obvious characteristics or qualities of hieroglyphic writing?
- How would you describe the registers? How were the registers read by ancient Egyptians?
- What is a cartouche? How would you describe it?
- What is the identifying characteristic of a cartouche?

Practice Writing/Preliminary Sketches
Distribute the Egyptian Hieroglyphics reference sheets. Explain how each consonant of the alphabet, as well as each sound in spoken language, has a corresponding hieroglyphic. Discuss how the reference sheet will serve your students as a guide to hieroglyphic writing. Review how the Egyptians expressed sounds and phrases through written symbols. Using the Egyptian Hieroglyphics reference sheet, demonstrate how to translate a few simple sounds into hieroglyphics. Write the sounds on a chalkboard for your students to see. Combine the sounds to make a word in hieroglyphics. Be sure your students understand that they are writing symbols for every sound in a word, and not necessarily every letter..

EXAMPLE: (Egypt)

EXAMPLE: (Mummy)

Distribute the newsprint paper and pencils. Ask your students to write a few words or phrases in English and then rewrite them with hieroglyphics. Have them put their hieroglyphics in registers. Review your students' practice writing to check for their understanding of the concepts.



SESSION TWO
Ask students to choose one of their written hieroglyphic words/phrases from Session One to incorporate into their final hieroglyphic design. Tell them they will be planning their designs on newsprint paper. Remind them to write in registers as they place their hieroglyphics. Tell them they are to incorporate a cartouche with their name and aded a 1-1/2" decorated border around the outside edge of their paper (see illustration at left).

Stress to your students that they may design and place their cartouches anywhere

on their papers. Their border designs should contribute to the overall design of their work. Distribute the newsprint paper, pencils, and rulers and allow students time to experiment with a variety of ideas. As your students work, check for their understanding of the concepts.

SESSION THREE
Distribute the papyrus-style paper, rulers, and pencils. Have students refer to their sketches from Session Two as they draw their 1-1/2" border designs around the edges of their "papyrus" paper. Then have them transfer their planned hieroglyphic designs (from Session Two) onto the papyrus-style paper within the border. Distribute the black markers and have them trace over their pencil drawings. When their hieroglyphic designs are completed, distribute a variety of colored markers and ask your students to color their decorative border around the edges of their paper. Hieroglyphics can be colored as well.

ACTIVITY ASSESSMENT

- Students are able to identify hieroglyphic writing.
- Students are able to use hieroglyphics to create an interesting design incorporating a cartouche and a decorative border.
- Students are able to identify a cartouche within hieroglyphic writing.
- When given a sample of a few words of written text, students are able to transfer the text into hieroglyphic symbols.
- Students are able to describe the similarities and differences between writing their names with English letters and writing them with hieroglyphics.

EXTENSIONS/CONNECTIONS

- Have each student in the class write a portion of a collaborative story in hieroglyphics on papyrus-style sheets. Combine the papyrus-style sheets and sew them into book form.
- Place large sheets of butcher paper on the wall of your classroom and transfer hieroglyphics and Egyptian style painting onto the wall to make a mural.

ACHIEVEMENT STANDARDS
K–4 (b) Identify connections between the visual arts and other disciplines in the curriculum

5–8 (c) Describe ways in which the principles and subject matter of other disciplines taught in school are interrelated with the visual arts

Activity

Canonical Painting

CONTENT STANDARD: 3
Choosing and evaluating a range of subject matter, symbols, and ideas

GRADES: 4–8

ACTIVITY OBJECTIVES

Students will learn:

- to identify, describe, and interpret the Egyptian canon
- incorporate the Egyptian canon for wall paintings into their own work

SETTING THE STAGE

To prepare your students for the Canonical Painting activity, introduce the background information on Egyptian wall painting (page 31) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Fowling Scene reference sheet*
- heavy white drawing paper (11" x 14" per student)
- pencils

* See Reproducible Masters section beginning on page 101 of this resource.

SESSION TWO

- students' completed sketches from Session One
- newspaper for tables
- paint brushes (in a variety of sizes)
- tempera paint in creamy white, golden yellow, gold-tan ochre, brick red, turquoise blue, royal blue, bright green, black (colors found in traditional Egyptian wall paintings)
- water containers
- paper towels

GETTING READY

Make one copy of the Fowling Scene reference sheet for each student.

ACTIVITY

SESSION ONE

Introduce the Canonical Painting activity. Explain to your students that they will create a painting using the Egyptian canon for wall painting. Distribute copies of the Fowling Scene reference sheet to your students.

Discussions

Use the following questions to lead a discussion:

- How are the pharaoh and his wife portrayed?
- How is the pharaoh's body drawn? What direction is his torso facing? his eye? his legs? his head?
- What is unusual about the pharaoh's stance? How is this portrayal different from the way people really stand? Is it possible to stand for a

long time the way the pharaoh is standing? Why or why not?
- Is it possible to walk this way? Why not?
- What are the characteristics of the Egyptian canon?
- Which areas of the Fowling Scene follow the Egyptian canon?

Display the *Art & Archaeology* poster and have your students look at the image captioned "Egyptian Wall Painting." Ask your students to look carefully at the painting. Use the following questions to lead a discussion:

- How would you describe this painting? What colors of paint were used?
- How would you describe the shapes the artist used to paint his subject? Are they geometric? organic?
- Are people and animals portrayed?
- What are the people doing? Are these everyday activities? Do we participate in any of these activities today? If so, which ones?
- Are there people represented in this painting that are not depicted in the canon? Were these people important rulers? How do you know?

Egyptian Wall Painting © by Vicki Artimovich

Preliminary Sketches

Ask students to generate a list of everyday activities in which they participate. Write their list of activities on the board. Tell students they should each choose one of the activities listed on the board to sketch in an illustration. Pass out the paper and pencils and instruct your students to lightly sketch a scene of themselves participating in the activity of their choice. Remind them to follow the Egyptian canon while drawing themselves and any other important people in their drawing:

- head and legs in profile
- torso and eye facing the viewer
- people of importance depicted larger than other figures in the scene

Allow students the remaining class period to complete their sketches. As they draw, check for their understanding of the concepts.

SESSION TWO

Prepare the tempera paints and fill small containers with water. Select a variety of sizes of paint brushes. Have a paper towel available for each student.

Distribute your students' sketches. If needed, demonstrate how to use tempera paints. Show students how to select the proper brush size for painting (i.e., to paint small areas use a small brush). Demonstrate how to apply paint in a medium-thick, even layer. Tempera paint will crack and peel if applied to thickly. Show students how to clean their brushes thoroughly before they use a new color. Demonstrate how to use a paper towel to blot excess water from the paint brush after it is cleaned, so as not to dilute the paint in the container and make it too thin. Be sure your students know how to use the materials correctly. It will improve their craftsmanship.

Distribute tempera paints, brushes, paper towels, and water containers. Allow the remaining class period for painting.

ACHIEVEMENT STANDARDS
K-4 (b) Understand and use similarities and differences between characteristics of the visual arts and other art disciplines.

5-8 (b) Describe ways in which the principles and subject matter of other disciplines taught in the school are interrelated with the visual arts

ACTIVITY ASSESSMENT

- Students are able to describe, analyze, and interpret the Egyptian canon.
- Students are able to draw a figure following the Egyptian canon.

EXTENSIONS/CONNECTIONS

- Have students use a Venn diagram to compare and contrast the twisted perspective used in the Lascaux cave paintings with that used in the ancient Egyptian tomb paintings.
- Divide students into groups, and have each group create one large work using white butcher paper and markers. Display as a wall painting.
- Have students use hieroglyphics to write descriptions of the activities in their paintings. Have them include the descriptions in their work.
- Have students make their own papyrus-looking paper by applying lemon juice onto typing paper and placing the paper in the sun for a day to dry or pressing it with an iron.

Activity

Architectural Model

CONTENT STANDARD: 6
Making connections between the visual arts and other disciplines

GRADES: 4–8

OBJECTIVES

Students will learn:

- that architecture and mathematics are related fields of study
- to create a step-pyramid form which satisfies prescribed building specifications
- to create an architectural model which satisfies building specifications of their own

SETTING THE STAGE

To prepare your students for the Architectural Model activity, introduce the background information on step-pyramids (page 25–27), temples (page 32), and obelisks (page 30), and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE (per student)

- *Art & Archaeology* poster
- Slide #501A from your *Art & Archaeology* slide set (optional)*
- newspaper
- sand colored mat board (6" square per student))
- 30 sugar cubes
- paper cup filled with 5 oz. of frosting
- plastic knife for spreading frosting
- sealable plastic bag (1 gal. size)

Frosting Recipe (per 2 students):
Beat 3 egg whites until frothy. Slowly add 1 lb. powdered sugar until it becomes the consistency of white tacky glue, or purchase a 16 oz can ready-to-spread white frosting.

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

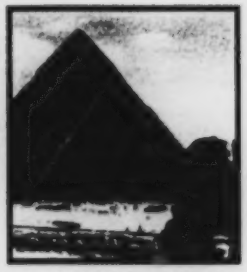
- materials for building (such as balsa wood, popsicle sticks, empty film canisters, playing cards, cardboard, or bottle caps)
- glue
- glue gun (optional)
- scissors or appropriate cutting tools
- rulers
- mat boards
- foam core

SESSION THREE (optional)

- students' models from Session Two

GETTING READY

Prepare the frosting to be used as mortar for the sugar cube constructions. Cover the desks with newspaper.



The Sphinx and the Great Pyramid, Giza, Egypt © by Vicki Artimovich

ACTIVITY

SESSION ONE

Introduce the Architectural Model activity. Explain to your students that they will be given a number of building specifications and asked to build a step-pyramid that conforms to those specifications. Explain that after their pyramids are completed and they have learned how to follow the building specifications, they will plan and build a second structure satisfying their own building specifications.

Discussion

Display the *Art & Archaeology* poster and have your students look at the image captioned "The Sphinx and the Great Pyramid" and/or have them look at slide #501A from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- How would you describe the shape of this Egyptian pyramid?
- What materials were used to build it?
- What type of building specifications do you think were needed to construct a pyramid in this shape?
- How many sides does a pyramid have?
- How is the shape of this pyramid different from that of a step-pyramid?
- How would the building specifications for a step-pyramid differ from those for a pyramid such as this?

Constructions

Distribute a piece of mat board and ten sugar cubes to each student. Tell your students to try to build a step-pyramid using their ten sugar cubes, while following these building specifications:

1. The step-pyramid must be four levels high.
2. The step-pyramid must have four sides that are equal in appearance.

Allow students to arrange their sugar cubes in an attempt to make step-pyramids according to the specifications. Ask students if they think it is possible to make a step-pyramid to the given specifications while using only ten cubes. Monitor your students' constructions, and point out unique attempts to meet the specifications. Allow ample time for this process.

Distribute ten additional sugar cubes to each student. Ask your students to try again to build a step-pyramid using the sugar cubes, adding an additional building specification:

3. All cubes must touch each other, leaving no spaces in between.

Allow students to experiment with various combinations. Again, monitor their constructions, and point out unique attempts to meet the specifications. Review the specifications and ask students to evaluate their own constructions based on the following questions:

- Does your construction look like an Egyptian step-pyramid? Why or why not?
- How many more cubes do you think are necessary to make a complete step-pyramid?

Distribute ten additional sugar cubes to each student and have them try to complete their step-pyramids. Add the fourth and final building specification, if needed:

4. The step-pyramid must have a square base.

After students have created pyramids that satisfy all four specifications, demonstrate how to apply frosting to mortar the cubes together. Begin by placing a layer of frosting on the center of a piece of mat board. Place a layer of cubes (4x4 cubes) onto the frosting. Apply frosting to the top of this layer and place the next layer of cubes (3x3 cubes) on top. Frost the top of these cubes and place the next layer of cubes (2x2 cubes) on top. Frost the top of the layer and place the last, single cube on top. Distribute the plastic knives and cups of frosting. Allow students to use the remaining time to mortar their step-pyramids. Have students place their pyramids in sealable plastic bags to take home.

SESSION TWO

Tell students that they will be creating their own building specifications and constructing architectural models that satisfy their specifications. Introduce a variety of materials they may use to build their models. Remind them that the materials they select should be suited to the shape and size of their constructions. Divide your students into pairs and ask them to work together to develop their specifications. Instruct them to create one specification in each of the following categories:

shape: geometric (cube, pyramid/cone, sphere, etc.)

height: stories high or inches

density: solid or open structure

quantity: number of pieces to be used to build the structure

material(s): materials to be used to build the structure

For example, one set of specifications might be:

1. triangular base
2. four stories high
3. open construction
4. forty pieces
5. popsicle sticks

Ask each group to make a preliminary sketch of their idea and a list of the building materials they intend to use. Check each drawing for your students' understanding of the concepts.

After your students have completed their specifications and sketches, distribute the necessary building materials. Allow the remaining class period for construction.

SESSION THREE (OPTIONAL)

Have students complete their models if needed. Display the models and ask your students to discuss their work. Challenge them to guess the specification of each model. Ask the builders to discuss their work. Use the following questions to lead a discussion:

- Why did you choose the materials you chose? Did your choice make it easier or more difficult for you to build your model?
- What challenges did you encounter while building?
- Were there specifications you were not able to meet? If so, which ones and why?
- Did you have to change any specifications after you began your building? If so, which ones and why?
- What did you learn from this experience?

ACHIEVEMENT STANDARDS
K–4 (b) Select and use subject matter, symbols, and ideas to communicate meaning

5–8 (a) Integrate visual spatial and temporal concepts with content to communicate intended meaning in their artworks

ACTIVITY ASSESSMENT

- Students are able to discuss the relationship between architecture and mathematics.
- When given a total of thirty cubes, students are able to construct step-pyramids following certain building specifications.
- Students are able to create an architectural model which satisfies their own building specifications.

EXTENSIONS/CONNECTIONS

- Have students create their own specifications for architectural constructions and challenge classmates to build the structures.
- Grades 4–5: Discuss multiplication, geometry and angles.
- Grades 6–8: Use more sugar cubes and larger mat board to further explore design and mathematical concepts.

AESTHETIC INQUIRY FOR CHAPTER THREE

Aesthetic inquiry involves students in the perception, understanding, and appreciation of works of art. When we involve our students in aesthetic inquiry, we challenge them to consider important questions, sometimes referred to as the "big questions" that concern art in general. These questions may have many answers, depending on your point of view. It is important to raise these issues with your students, because such issues have the potential to deepen their understanding and appreciation of art. The concepts in the following questions are suitable for students of all ages. You may choose to rephrase some of these questions depending on the age level of your students.

1. Since the beginning of time people have produced works of art for many reasons. What are some important reasons to produce art?
2. How does a culture's production of artwork relate to their spiritual beliefs?
3. Some works of art take a long time to make and/or survive a long time. Does the length of time it takes to make something influence the value of the work? Is an artwork better if it takes a long time to make? Does the length of time an artwork survives influence its value?
4. Is architecture art? Why or why not? If architecture is art, is an architect an artist? Why or why not?

ASSESSMENT FOR CHAPTER THREE

- Students are able to define and discuss the vocabulary presented in the chapter.
- Students understand the historical development of the Egyptian people who lived along the Nile River.
- Students are able to describe the architectural development of the Egyptian pyramid.
- Students are able to explain the influences that Egyptian's religious beliefs had on Egyptian art and architecture
- Students are able to identify and discuss the role of hieroglyphics in Egyptian culture
- Students are able to explain the canon of Egyptian painting and create a painting using the canon.

Chapter 4
First Emperor of China

CHAPTER OBJECTIVES
Students will learn:

- that archaeological sites are sometimes discovered by accident
- about the discovery of the the burial complex of China's First Emperor, Qin Shi Huangdi
- that the ancient Chinese discoveries of papermaking and block printing techniques led to increased education and exchanges of information and ideas

AN ACCIDENTAL DISCOVERY

Archaeologists often use research to find the best areas to excavate, but archaeological sites are also found by accident. One such site, now being excavated near **Xian**, China, was discovered in 1914 by a farmer and his son who were digging a well. While digging, they found a pit that contained life-size terra-cotta statues of soldiers. When the water in the well suddenly drained away, the farmer and son became frightened and immediately reburied the clay soldiers, regarding them as bad luck. In 1974, the same site was rediscovered, again by two farmers digging a well. This time, archaeologists were contacted to investigate the area. What archaeologists believe they discovered was a major archaeological find, the elaborate burial complex of China's First Emperor, **Qin Shi Huangdi**.

In the year 249 B.C., when he was thirteen years old, Shi Huangdi became ruler of his local province of Qin. In 221 B.C. when he unified the country after much barbarism and bloodshed, Shi Huangdi declared himself First Emperor of China . His reign marked the first time in history that China was governed under a single ruler. In fact, the country of China was named after his **dynasty**, the Qin (pronounced "chin") Dynasty. Shi Huangdi was a man of tremendous power and ability. His laws were based on a totalitarian philosophy called legalism, and under his rule, all other philosophies were violently banned. A despotic leader, Shi Huangdi was mistrustful of people, fearing that they would one day organize a revolt or even assassinate him. Mindful of these potential threats to his life, he continually sought ways to attain immortality. Even before uniting China, he commissioned the construction of his own very elaborate **mausoleum**. This mausoleum was built as an underground replica of the world that even included a model of Qin Shi Huangdi's palace. It took thirty-nine years to build with over 700,000 workers, many of which were slaves. Shi Huangdi reigned as emperor until 210 B.C., when he died at fifty years of age. During the five years that followed his death, the building of his mausoleum continued as his son attempted to maintain control of the Chinese empire, but the oppressive reign of the Qin Dynasty finally ended with a revolt of the people in 206 B.C.

Artifactoid
Qin Shi Huangdi is also credited with commissioning the construction of the Great Wall of China, the world's longest man-made structure.

The tell that eventually covered the First Emperor's tomb was visible for a long time, but it was not until the accidental discovery of the clay soldiers in 1974 that

VOCABULARY

Xian—
Location in China where the elaborate burial complex of China's First Emperor, Qin Shi Huangdi, was discovered.

Qin Shi Huangdi—
Known as the First Emperor of China, because he unified the country. The country of China is named after his dynasty (221–206 B.C).

dynasty—
A family of rulers related by blood.

mausoleum—
A large tomb, usually a stone building with places for entombment of the dead above ground.

VOCABULARY

***Shih Chi*—**
A compilation of previous histories and chronicles that was the first comprehensive history of China. Authored by Chinese historian Ssu-ma Ch'ien (c.145–86 B.C.).

archaeologists realized what treasures lay 130 feet beneath. As the site at Xian continues to undergo excavation, archaeologists are analyzing the site's artifacts and forming interpretations. One important clue, found by researching the ***Shih Chi*** historical records, is a document that was written around 145 to 90 B.C., which describes the burial place of China's First Emperor. In the document are descriptions of the tomb's location, how it was built, and the items it contains. Archaeologists continue to compare the present-day site at Xian and the artifacts found there with this description. Comparing the document with the Xian site is one way that archaeologists are able to support their interpretation of the site as being that of the burial complex of China's First Emperor. Below is an excerpt from that document:

> As soon as the First Emperor became king of Qin, work was begun on his mausoleum [tomb] at Mount Li. After he won the empire, more than 700,000 conscripts [workers] from all parts of China labored there. They dug through three underground streams; they poured molten copper for the outer coffin; and they filled the burial chamber with models of palaces, towers, and official buildings, as well as fine utensils, precious stones, and rarities. Artisans were ordered to fix automatic crossbows, so that grave robbers would be slain. The waterways of the empire, the Yellow and Yang-tzu rivers, and even the great ocean itself, were represented by mercury and were made to flow mechanically.* Above, the heavenly constellations were depicted, while below lay a representation of the earth. Lamps using whale oil were installed to burn for a long time.... Once the First Emperor was placed in the burial chamber and the treasures were sealed up, the middle and outer gates were shut to imprison all those who had worked on the tomb. No one came out. Trees and grass were then planted over the mausoleum to make it look like a hill.
>
> * Through survey, geologists have determined that heavy concentrations of mercury lie beneath the site at Xian.

AROUND THE TOMB

Since the accidental unearthing of the clay soldiers in 1974, archaeologists have excavated four football-field-sized pits, one of which was empty, in a field surrounding the Xian area. In the pits, they made an astonishing discovery. The clay soldiers unearthed by the farmers were actually part of a full terra-cotta army of over 7,000 soldiers laid into battle formation. The soldiers are formed in life-size proportions, ranging in size from 5'6" to 6'2". Each soldier is individually fashioned and wears a uniform denoting a specific rank or division in the cavalry. Headdresses and armor are depicted with great detail. Even the soles of the soldiers' shoes have tread markings. No two soldiers have the same face. Archaeologists believe the heads of the soldiers were modeled after real human beings, probably to convey to the spirit world that humans were watching out for the Emperor in his death. Before the time of the Emperor's death, it was customary among the Chinese to bury living people with the dead for this purpose. After the practice was discontinued, it was considered important to bury realistically depicted sculptures of people with the dead.

Artifactoid

Archaeologists have uncovered evidence which says that after 100 soldiers were created by an individual artist, his job would be complete. Good thing! If he made just one mistake, he could be executed.

In the same pits where the clay soldiers were uncovered, archaeologists also uncovered life-size wooden chariots, clay horses, and over 40,000 weapons. The life-size horses and figures embody the energy and spirit of a powerful, prestigious army.

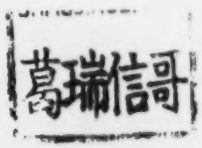
POTTERY AND CHINESE VESSELS

Located in the pits at Qin Shi Huangdi's **necropolis**, along with the clay army, were pottery coffins filled with the bones of birds and animals from the imperial zoo. Pottery workshops were located near the Xian soldier pits, attesting to the importance of claywork in ancient Chinese culture. The Chinese were magnificent potters whose production of pottery was advanced around 2000 B.C. by their improvements to the potter's wheel, which was invented around 4000 B.C. by the Egyptians. Over time, the Chinese developed the high-fire kiln for firing their fine chinaware and porcelain.

Various offering vessels were used early in Chinese history. Pottery shapes were very important to the Chinese. The shape of a piece denoted its function, or the specific offerings it would contain. For example, a *chiao* (pronounced "dow") held salted vegetables and mashed meat with soybean sauce; a *hu* (pronounced "hoo") held wine; and a *kui* (pronounced "goo") was a vessel for serving foods such as millet and grain. Other pots, called *tings* (pronounced "dings") were used mostly to cook meat and had three legs in order to be placed over cooking fires. Other three-legged vessels are called *li, yen, chueh, chiao, chia,* and *ho,* but it is tings that are most commonly associated today with three-legged bronze vessels. During Qin Shi Huangdi's time, vessels that were made of bronze were often intricately decorated with designs such as clouds and leaves in a very symmetrical manner. Bronze vessels continued to appear even beyond the Qin Dynasty, becoming increasingly common and increasingly reproduced over time.

CHOPS

Artists' signatures, recorded in the form of **chops**, have been found stamped behind the knees or under the arms of the clay soldiers buried in Qin Shi Huangdi's necropolis. A chop is an official seal, stamp, license, or permit. Chops may be compared to Egyptian cartouche designs (see pages 30–31) in that they usually signify a name. Chops on artworks may designate the owner of the piece, the artist, or the person who had the work commissioned. Some artworks, if created by the labors of more than one person, are stamped with more than one chop, because each person adds their own chop to the piece while it is in their possession. Chops are still used on artworks today. They are also used as brands on particular goods such as silk or tea. Sometimes goods are stamped and described as "first chop" to indicate that they are first rate, or the best. Chops are usually square and have four characters in each of their four corners, but some are circular or rectangular. Normally, the characters carved on a chop are representations of short phrases that are intended to describe the owner of the chop.



Using a chop to make a print is a type of **block printing**, the simplest and earliest method employed to produce a printed image. Block printing was used in China beginning as far back as the seventh century A.D. At that time, it was done with carved relief blocks made of pear or jujube wood, cut to the size of book pages. To create a wood printing block, the areas surrounding designed characters were carved away, leaving the characters raised from the surface. The areas where wood is carved away are called the **negative space**, and the characters that are left behind are called the **positive space**. In any type of stamping process, the positive space prints to create the image. To create a block print, an artist designed letters or pictures on paper with a type of ink or paint that would adhere to a block of wood. As the paper was rubbed onto the wood, color side down, the ink transferred to the wood. After the paper was peeled back, a woodblock cutter carved away the background, or negative space, of the letters or

VOCABULARY

necropolis—
A burial area which includes buildings and monuments.

chop—
A seal of ownership or authorship used by the Chinese, usually red in color. The word "chop" refers both to the block that is inked and used to stamp the seal and to the seal itself.

block printing—
A type of printing in which figures are cut in relief on a form or hard surface, such as wood, and then inked and stamped onto another surface, leaving behind the design of the relief.

relief—
A form of sculpture in which a flat surface is cut away in areas (or built up in areas) creating a raised design.

negative space—
Design concept of the background, or ground, in an artistic composition.

postive space—
Design concept of the main figure or subject in an artistic composition.

VOCABULARY

Tsai Lun—
The man reputed to have invented paper in China in 105 A.D. No solid proof has been found that Tsai Lun was the inventor, but the story has endured through the ages.

pulp—
Soft mass of tissue obtained by mechanical or chemical preparation of a material such as wood or fabric.

pictographs—
Drawings or paintings representing words and ideas.

Shang Dynasty—
(1750–1000 B.C) Noted for bronzeware production. Shang society was clan-based and dominated in various localities by warrior nobility.

pictures on the wood, leaving behind the relief, or positive space, of the block. The carved block was then coated again with color and used to print the design onto paper. Multiple colors on a print were made by carving out a separate block for each color used. Sometimes more than twenty different blocks were carved for just one printed picture! The invention of block printing was important for Chinese civilization because it made it quicker and easier for the Chinese to reproduce and distribute information. As a result, education and scientific discoveries flourished.

PAPERMAKING

Before the invention of paper, it was not as easy to exchange written ideas as it is today. Over the centuries, people used a variety of materials as painting and writing surfaces: the walls of caves, bones, clay tablets, papyri, wood, cloth, and even wax-covered wooden tablets. In early China, the most common writing surfaces were bamboo strips, and later, silk cloth. However, because the bamboo was cumbersome for storage purposes, and the silk was both expensive and time-consuming to create, the Chinese were gradually led to search for a more practical writing surface. A man named **Tsai Lun**, who was in charge of the imperial library, is said to have spent sixteen years searching for the right formula for creating this new surface. Finally, around 105 A.D., he discovered a method for using fibers to create paper. The fibers came from the bark of the mulberry tree, hemp, fishnets, and rags which he pulled apart and soaked to make **pulp**. The pulp was pushed through a basket-like framed screen and dried in the sun to make a flat sheet of paper. This process made it possible for the Chinese to make books of paper, which soon replaced older documents written on bamboo and silk scrolls. Books were regarded with great respect, and with the availability of books, more people had access to education. One result of having an educated populace was an increase of new ideas and inventions.

The Chinese method of papermaking was kept secret from the outside world for more than 600 years. However, in 751 A.D., two Chinese papermakers were taken hostage in a battle with the Arabians. To gain their freedom, the men were coerced into revealing the secret of papermaking. The Arabians kept the secret of papermaking in their confidence until 1151 A.D., when the first European paper mill was built in Xativa, Spain. The process of making paper finally came to the New World in 1575, brought by Spanish settlers of Mexico. Eventually it made its way to the United States, and in 1690, the first U.S. paper mill was built in Pennsylvania. Paper in the mills was made by grinding old rags into pulp, which was then pressed into sheets.

Artifactoid
The Japanese adopted many of the characters for their writing from those of the Chinese alphabet.

CHINESE CALLIGRAPHY

Before the invention of paper and before Chinese writing becamed standardized, the Chinese used **pictographs** of objects and ideas, cutting them into bone or strips of bamboo (about 3000 B.C.) or into the bronze vessels made during the time of the **Shang Dynasty** (about 1750–1100 B.C.). Many varieties of scripts evolved from these pictographs. By the end of the third century B.C., during Emperor Qin Shi Huangdi's reign, Chinese writing had become standardized into nearly 50,000 characters to facilitate communication among the various provinces. Today, one has to know at least 3,000 of the 50,000 characters just to read the Chinese newspaper! Chinese writing has remained a powerful, unifying force in the Chinese culture even as languages have changed over the centuries. Although many different dialects are spoken in China, most people read the same script. Chinese writing is written and read in columns—from top to bottom and from right to left.

Chinese **calligraphy** is done with a sharply pointed brush made of wolf or leopard hair with a bamboo handle. Some characters are made using as many as twenty strokes. To make the ink for calligraphy, a dry, usually black ink stick made from soot or lampblack is rubbed on a special tray or ink stone that has a bowl filled with water at its base. As the ink dissolves into the water, a variety of ink tones develop, depending on the amount of water used and the length of time the ink stick is rubbed into the water.

Calligraphy was once regarded as the highest form of art in China. For centuries, it was used to write signatures and poetry on beautiful silk paintings. With the invention of pens, typewriters, and computers, the art of Chinese calligraphy is fast disappearing in modern China. The skill, time, and discipline needed to practice calligraphy are being replaced by faster and more convenient methods of writing.

Note: There is a difference between calligraphy and everyday Chinese writing. Chinese writing is not always calligraphy. The *art* of Chinese writing is referred to as calligraphy.

VOCABULARY

calligraphy—
From the Greek words *kalos*, which means "beautiful," and *graphia*, which means "writing."

50

Activity

Relief Printing

CONTENT STANDARD: 2
Using knowledge of structures and functions

GRADES: 4–8

ACTIVITY OBJECTIVES

Students will learn:

- to identify and discuss the visual qualities of a Chinese painting
- to create a repetitive design using a stamping technique
- to create a relief print incorporating negative and positive space and patterns

SETTING THE STAGE

To prepare your students for the Relief Printing activity, review or introduce the information about Chinese block printing (pages 47–48) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Slide #500P from your *Art & Archaeology* slide set (optional)*
- store-bought stamp and stamp pad
- newsprint
- a variety of natural and man-made items for stamping (e.g., corks, erasers, pieces of cardboard, leaves, etc.)
- water-based printing inks
- sheet of plexiglass or other flat, smooth, non-absorbent surface
- brayers

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

- pencils
- paper (the same size as your printing surface)
- blocks for carving (e.g., Scratch-Foam™, linoleum blocks, wood, etc.)
- water-based printing inks
- sheet of plexiglass or other flat, smooth, non-absorbent surface
- brayers
- a variety of paper types (construction, water\color, wall paper, wrapping paper, etc.)
- carving tools (pencils, clay tools, plastic knives, etc.)

GETTING READY

Set up a printing area with the materials needed for stamping and printing. Prepare sufficient space for drying prints (clothesline, drying rack, or counters). Wet prints cannot be stored on top of one another.

ACTIVITY

SESSION ONE

Introduce the Relief Printing activity. Explain to your students that they will create a design in relief and print it.

Discussion
Display the *Art & Archaeology* poster and have your students look at the image captioned "Chinese Painting with Calligraphy and Chop Seal" and/or have them look at slide #500P from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- What is the subject of this painting?
- What colors did the artist use to create the image? Are there many colors? a few? Are the colors intense? muted?
- How would you describe the texture of the painting? Is it smooth? rough? What process was used to produce the texture?
- What areas of the painting are the positive space? What areas are the negative space?
- Can you identify a chop-seal on the painting? How many colors were used on the chop? How do you think the method for applying the chop-seal differed from the method used to create the rest of this artwork?

Chinese Painting with Calligraphy and Chop Seal © 1996 by Jul Ham.

Stamping
Demonstrate the process of stamping a design using a store-bought stamp and pad. Point out the areas on the stamp which have been carved away, and the areas which are raised. Explain to your students that the raised areas will receive the ink and, consequently, will be the areas that print. Demonstrate this concept by printing with the stamp on a piece of paper. After you have stamped a design, point out the positive space as the printed area, and the negative space as the unprinted area.

Demonstrate how to use a variety of natural and man-made items for stamping (e.g., corks, erasers, edges of cardboard pieces, leaves). Squeeze a small amount of printing ink on a smooth surface, such as plexiglass. Use a brayer to roll the ink over the surface. Roll until the ink is tacky. Ink the object with the brayer and stamp the object on a piece of paper. Demonstrate how to stamp the same object several times to create a pattern. Change objects and colors and repeat the process. As you work, discuss the choices you are making and how those choices are impacting your design.

Distribute the materials. Have students select the items they wish to use as stamps and allow the remaining class period for stamping. Encourage your students to experiment with a variety of designs, colors, and papers.

Have students select two of their favorite prints and mount them on another piece of paper or board. Display their work.

SESSION TWO
Tell your students that they will be creating relief block prints using a technique similar to that which is used to make a chop (see pages 47–48).

Drawing
Ask your students to create a design using positive and negative shapes. Have them draw three to five shapes that overlap or intersect in some manner. Have students use a pencil to fill in those areas thaty want to use as positive shapes. Remind them that positive shapes must be bordered by [carved] negative space in order to be visible in a relief print.

Carving
Demonstrate how to carve a relief print from a block. The materials you use for your block will dictate the carving tools you use. If you choose foam, use any type of pointed tool for carving (e.g., pencil, clay tool, or nail). Foam is very easy for younger students to carve. Use one of your students' designs or a design of your own to demonstrate how to create the relief surface. If you are using styrofoam, press down around the lines of the design with a pencil or pointed tool. If you use linoleum blocks or wood blocks, you will need sharper and sturdier carving tools. As you carve your block, discuss the use of negative and positive space. Point out that the raised positive space will print and the carved negative space will not print. Distribute the blocks and carving materials, and allow your students ample time to carve their relief designs.

CAUTION: Demonstrate safe carving techniques. Refer to a resource on printmaking for more detailed information.

Printing
When the students have completed their blocks, direct them to the separate printing area you have arranged in your classroom. Demonstrate the printing process. Squeeze out one to two inches of printing ink onto the smooth surface. Roll the brayer to spread the ink evenly over the surface. When the brayer roller is coated evenly with ink, roll it over the top of the block surface. Cover the block with an even coat of ink. Carefuly place a piece of paper on top of the inked block and rub the back side of the paper to transfer the ink. When the paper has been rubbed completely, peel the paper off the block. Set the paper aside to dry. Allow students ample time to create their prints. Encourage them to do several prints and experiment with a variety of colors and papers. Mount and display their completed works.

ACHIEVEMENT STANDARDS
K–4 (b) Describe how different expressive features and organizational principles cause different responses

5–8 (c) Select and use the qualities of structures and functions of art to improve communication of their ideas

ACTIVITY ASSESSMENT

- Students are able to discuss the visual qualities of a Chinese painting.
- When given a variety of items and materials for printmaking, students are able to create a repetitive printed design using the stamping technique.
- Students are able to create a relief print incorporating negative and positive space and patterns.

EXTENSIONS/CONNECTIONS

- Have your students make a printed mural of a theme. For example, to create a mural of a village scene have each student make a block to print one image for the scene, such as a house, tree, fence, person, etc. Have them repeat their image as needed to create a fuller scene.
- Have your students make handmade paper. There are numerous techniques for making paper, each requiring a variety of classroom materials. Choose a comprehensive papermaking resource book and select the methods that are best suited to your classroom setting, grade level of students, number of students, and budget. See the Related Resources Available through CRIZMAC listed on page 122 of this resource for terrific papermaking books.
- Introduce the art of calligraphy using a good resource. Have students practice the teqnique. Duplicate the Chinese Calligraphy reference sheet (from the Reproducible Masters section of this resource) and distribute to your students as an example of the writing style or a guide in helping them practice calligraphy.

Activity

Pottery

GRADES: 4–8

CONTENT STANDARD: 5
Reflecting upon and assessing the characteristics and merits of their work and the work of others

OBJECTIVES
Students will learn:

- to identify and describe several varieties of Chinese pottery
- to create and decorate a clay container of their own design using a variety of hand-building techniques

SETTING THE STAGE

To prepare your students for the Pottery activity, introduce the background information on Chinese pottery (page 47) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Slide #614H from your *Art & Archaeology* slide set (optional)*
- Chinese Pottery Styles Guide**

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.
* See Reproducible Masters section beginning on page 101 of this resource.

SESSION TWO

- 10 lbs. pottery clay (divided into baseball-sized balls)
- newspaper
- water containers
- clay tools or any pointed styli, such as pencils, paperclips, nails, or round toothpicks
- kiln*
- plastic drycleaning bags (optional)

* If you do not have access to a kiln, see Extensions/Connections on page 55.

SESSION THREE

- students' bisque-fired pots
- decorating materials (glazes, acrylic or watercolor paints, shoepolish, etc.)
- paintbrushes
- soft rags

GETTING READY

Make one copy of the Chinese Pottery Styles Guide for each student.

ACTIVITY

SESSION ONE

Introduce the Pottery activity. Explain to your students that they will create a clay container of their own design using a variety of hand-building techniques.

Ting Pot, Gift of Mrs. Donald E. Frederick. Photo by Paul Macapia. Courtesy of Seattle Art Museum

Discussion

Display the *Art & Archaeology* poster and have your students look at the image captioned "Ting Pot" and/or have them look at slide #614H from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- How would you describe the shape of the pot? Does it have legs? handles? a lid?
- How is the pot decorated? Are there lines or shapes used for decoration? What colors and how many were used?
- Is the decoration figurative? abstract? simple? complex?
- How would you describe the texture of the pot? Is it glazed? painted? smooth? rough? burnished? shiny? matte?
- Is the pot incised with designs? If so, what visual effect is produced by the incised areas?
- Was this pot made to be used for a specific purpose? for activities of daily life? for celebration? for ritual? for decoration?

Distribute a Chinese Pottery Style Guide to each student. Ask your students to choose two or more vessel shapes from the guide, and contrast and compare their visual qualities.

SESSION TWO

Tell your students that they are going to be making their own pottery containers. Ask them to think about the design of the pot they would each like to make. If necessary, have them make several thumbnail sketches of different types of pots. Ask them to consider making legs, lids, and/or handles on their pots.

Demonstrate how to make a pinch pot using a small ball of clay about the size of a baseball. Place your thumbs in the center of the ball and rotate the clay to create a center opening. Continue rotating the clay to make the walls of the pot. Gently tap the bottom of the pot on a table to flatten the bottom so that the pot will stand evenly on the foot. Gently tap the top rim, or mouth, of the pot on the table to smooth and even out the top of the pot. If you opt to have your students create coil pots or if your students will be adding handles or clay embellishments, demonstrate how to score and slip two pieces of clay before joining them, then slip and smoth the joint until no seam shows. Show your students how to incise their clay pots with a pointed tool to create designs. Tell them they should incise the designs on their moist pots after they have finished building them. If your students do not complete their pots in the time allotted, have them wrap their claywork securely in plastic drycleaning bags to maintain moisture in the clay until the next class period.

NOTE: If this is your first experience working with clay, refer to a basic pottery reference for more detailed information.

Distribute the materials and allow the remaining class period for building and incising pots. Allow the completed pots to air dry (approximately one week). BISQUE-FIRE DRIED POTS BEFORE THE NEXT SESSION.

SESSION THREE

Demonstrate one or more of the following techniques for finishing pottery:

Glaze: If you have access to glazes, demonstrate proper application techniques. Fire the glazed pots according to directions on the glaze container(s).

Paint: Acrylic and watercolor paints can also be used on bisqued clay for decoration. Paint can be applied opaque or translucent.

Shoepolish: Shoepolish can be applied to pottery and buffed with a soft rag.

Distribute the materials and allow the remaining period for finishing pottery.

ACTIVITY ASSESSMENT

- When shown a variety of different styles of pottery, students are able to identify and describe several Chinese pottery styles.
- When given clay, students are able to construct and decorate a pot using hand-building techniques.

EXTENSIONS/CONNECTIONS

- Have your students make their pots using air-dry clay if you do not have access to a kiln. For finishing, pots may be decorated with acrylic paint, tempera paint, or shoepolish.

ACHIEVEMENT STANDARDS

K–4 (a) Understand there are various purposes for creating works of visual art

5–8 (a) Compare multipurposes for creating works of art

AESTHETIC INQUIRY FOR CHAPTER FOUR

Aesthetic inquiry involves students in the perception, understanding, and appreciation of works of art. When we involve our students in aesthetic inquiry, we challenge them to consider important questions, sometimes referred to as the "big questions" that concern art in general. These questions may have many answers, depending on your point of view. It is important to raise these issues with your students, because such issues have the potential to deepen their understanding and appreciation of art. The concepts in the following questions are suitable for students of all ages. You may choose to rephrase some of these questions depending on the age level of your students.

1. The objects found in the tomb of Qin Shi Huangdi are called artifacts by archaeologists. Do you think these artifacts can also be called works of art? Why or why not? Are there certain qualities that belong only to artifacts and others that belong only to works of art? If so, what are they?
2. Pottery vessels are often called craft rather than art. Are there differences between objects called crafts and objects called art? If so, what are they?

ASSESSMENT FOR CHAPTER FOUR

- **Students are able to define and discuss the vocabulary presented in the chapter.**
- **Students are able to discuss the events and circumstances that led to the discovery of the burial complex of Qin Shi Huangdi.**
- **Students are able to discuss the discovery of papermaking and block printing techniques and the impact of these discoveries on education and the exchange of information.**

Chapter 5
Aegean Wonders

CHAPTER OBJECTIVES
Students will learn:

- that the Aegean region was the site of many ancient civilizations
- that many different types of artifacts and significant architecture were produced in the Aegean region
- that ancient Greeks created and used masks for many purposes
- that the Greeks created exquisite pottery
- that seal-stones were used by the ancient Minoans at Knossos

THE SEARCH FOR TROY

Heinrich Schliemann has often been called the first true archaeologist. When Heinrich was a young boy, his father read him the *Iliad* and the *Odyssey*, **epic poems** written by the Greek poet Homer. These poems described people and events from the legendary Trojan War, a decade-long battle between the ancient cities of Greece and Troy. Scholars of Schliemann's time believed that Troy was a mythical city invented by Homer, but Schliemann noticed that many of the other cities mentioned in Homer's epics were places that actually existed. Schliemann felt sure that Troy was not a fictitious place. As he grew older, Schliemann began to think about the possibility of finding the ancient city of Troy. His curiosity motivated him to gather clues from both epic poems and research historical documents and stories to determine possible sites of Troy. Eventually, Schliemann's business successes afforded him enough money to fund his own excavation in search of Troy. He excavated in the country of Turkey, where a large mound—a tell—at a place called **Hissarlik** seemed to be a likely site. The tell was eventually found to contain at least nine ancient cities atop one another, one of which was Troy.

Artifactoid
Still called King Priam's Treasure, the collection of over 12,000 artifacts excavated at the Hissarlik site mysteriously disappeared from Berlin during WWII. It was found in 1993 in the state treasury in Moscow, Russia.

In 1872, Schliemann's excavation of the tell at Hissarlik began. Unfortunately, as his laborers excavated, they accidentally destroyed walls, mixed strata, and overlooked small artifacts and other clues that could have helped archaeologists construct a more accurate interpretation of the site. Because their archaeological techniques were not as developed as those of modern archaeologists, Schliemann and his crew unknowingly excavated through nine layers of stratum and declared an older city that lay beneath, dating from 1,000 years earlier, to be the lost city of Troy. When he found a large amount of gold jewelry and artifacts, Schliemann hailed them as the treasure of King Priam, the ruler of Troy. The artifacts were actually the treasure of a different king who lived 1,000 years earlier than King Priam at the same site. In 1990, the true outer wall of Troy was found one quarter of a mile away from the center of the site where Schliemann excavated. Its location supported the Homeric epic.

VOCABULARY

Heinrich Schliemann—
(1822–1890) Often called the first true archaeologist. He researched the *Iliad* to locate the ancient city of Troy. He uncovered Troy and Mycenae in ancient Greece.

epic poem—
A long narrative poem recounting the deeds of a legendary or historical hero.

Hissarlik—
A town in western Turkey near the mound that covered the ancient city of Troy.

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VOCABULARY

Minoan–
(2200–1450 B.C.) Early Cretan culture named by Sir Arthur Evans after a legendary King Minos.

Aegean—
Region of the Mediterranean Sea between Asia Minor and Greece and including the islands therein.

Sir Arthur Evans—
(1851–1941) English archaeologist who discovered the Minoan site of the Knossos Palace on the island of Crete.

King Minos—
Legendary king of Knossos and the namesake of Minoan civilization. It is believed that, in actuality, there probably was not one particular Minos. Rather, the name Minos belonged to a dynasty of rulers at Knossos.

Knossos—
Site on the island of Crete that was excavated by Sir Arthur Evans; the palace of King Minos.

pithoi—
Huge storage jars in which oil and wine were kept.

Akrotiri—
A Minoan settlement on the island of Santorini (also called Thera), located about sixty miles north of Crete.

KNOSSOS

Between 3000 B.C. and 1100 B.C., a great culture now known as the **Minoan** civilization flourished on the **Aegean** island of Crete. The Cretan land was rich with oil, grain, and fruits and was strategically located to support thriving trade with towns in Greece, the Mediterranean, Egypt, and Syria. Over the course of several centuries, the Minoans erected numerous palace complexes around the Cretan island, most of them close to the sea. These elaborate complexes operated simultaneously as administrative, commercial, and religious centers, and many, though not all, of the Minoan people lived in or around them. The name "Minoan" was given to this great civilization by **Sir Arthur Evans**, an English archaeologist who excavated sites on the island of Crete between 1900 and 1905. Evans derived "Minoan" from the name of a legendary **King Minos**, who is said to have ruled from a great palace complex in a Cretan town called **Knossos**. In actuality, there was not an individual named King Minos. The name Minos was probably that of a dynasty of rulers at Knossos. The complex at Knossos was unearthed by Evans in his archaeological work on Crete, and its discovery became his life's passion: he spent the next twenty-five years studying, restoring, and publishing articles about the site.

In its time, the palace complex at Knossos contained more than 1,000 rooms and may have housed up to 80,000 people. Its floor plan was incredibly elaborate, incorporating courtyards, hallways, private rooms and apartments, huge storerooms, baths, and stairways. Some areas were built up to five stories high. Beneath the palace was an extraordinarily sophisticated plumbing system comprised of a network of terra-cotta pipes that provided for flushable toilets and hot running water.

Among the artifacts uncovered at the Knossos site were beautiful pieces of jewelry, metalwork, painting, pottery, and sculpture. Among the many pottery pieces uncovered were large clay vessels called **pithoi**. The pithoi were probably used to store oil and wine, two of the most abundant resources on the Cretan island. The immense sizes of the pithoi, and the huge number of them that were found lining storeroom walls at the Knossos palace, indicate that such palaces were, in fact, commercial centers for the Minoan civilization. One storeroom was found to contain enough jars to hold 20,000 gallons of olive oil! The pithoi and other clay pieces were probably made in the clusters of workshops that were found around the Knossos palace. Inscriptions on much of the claywork indicate that the Minoan people had a written language. The collective artifacts of Knossos and the palace itself evidence the tremendous skill of Minoan artists, architects, and engineers.

The fresco wall paintings and numerous statuettes made of clay, ivory, and gold that were found at Knossos indicate that the Minoan people had a distinct style of dress and art. Their style was similar to that of a culture in **Akrotiri** on the island of Santorini (also called Thera), which lies about sixty miles of north of Crete. Some scholars believe that Akrotiri may actually have been a settlement of Minoans. At the very least, the similarities between their clothing styles and artwork adds to archaeological evidence that the Minoans and the people of Akrotiri were in close contact through trade and possibly through government. At both Knossos and Akrotiri, there were no depictions of war or violence found on any of the artworks; the people were artisans and tradesman, rather than warriors. There is evidence that the Minoans traded throughout the Mediterranean, including Egypt. There is also evidence of Minoan trade in Spain. Probably because of their ideal location and their excellent seafaring abilities, the Minoans were a wealthy people.

The Minoan civilization may have been destroyed as the result of a **tsunami** (a tidal wave) which occurred when the island of Santorini blew up around 1500 B.C. The wave destroyed all who lived in Santorini and flooded the north coast of Crete. Further inland, where Knossos was located, ashfall ruined the crops that were the basis of Minoan economy. Whatever Minoan culture survived was probably overtaken by the Mycenaeans around 1400 B.C. Minoan influences on clothing, architecture, and and art were seen in Mycenaean culture during this time.

MYCENAE

Between 1450 and 1500 B.C., the Mycenaean culture on mainland Greece rose to power in the Aegean region. The Mycenaean civilization is named after **Mycenae**, another great city that appears in Homer's epic poems about the Trojan War. After Heinrich Schliemann excavated Troy, he turned his attention to the Peloponnese area of Greece where he believed he would find the remains of ancient Mycenae. He planned an excavation at the site, hoping it would contain the treasure of a great Mycenaean king named Agamemnon, who in Homer's Trojan epics led an invasion of Troy. Schliemann began his two-year excavation in 1876. When he arrived at the site, he was met by relentless rains, but continued his work in spite of the harsh weather. Digging through thick mud, he and his crew eventually uncovered five graves near the Lion Gate, which is a great stone doorway marking the entrance to the city of Mycenae. The gate is crowned by two carved lions and flanked by a **cyclopean** wall. Within the graves, Schliemann found gold and silver drinking cups, gold boxes, swords, and daggers. The most well-known discovery, found in Shaft Grave V, was of a lifelike gold portrait mask. Portrait masks were made by placing a soft sheet of gold over a person's face and then pressing down to mold it to that person's facial features. Schliemann immediately called his discovery the "mask of Agamemnon," but was later proved to be mistaken. The masks, treasures, and graves found by Schliemann at Mycenae actually belonged to unidentified king who lived around 1600 B.C.

Artifact told

Today, we can see the death masks of George Washington, Napoleon, Beethoven, and Abraham Lincoln. These masks were made on the actual bodies, at the time of their deaths, so we can see an exact likeness years later. The gold masks found at Mycenae were perhaps death masks. This practice was discontinued after the invention of the camera.

ANCIENT GREEK MASKS AND DRAMA

Masks have been used by humans for over 30,000 years. They may cover a portion of the face or the entire head, and they are worn for many reasons. In ancient times, almost any material was used to make masks: bark, leather, fur, cloth, wood, cork, even human skulls covered with clay and decorations. Grecian masks were used as funerary objects, as theater props, and as ritual and ceremonial pieces. The famous gold funerary mask found at Mycenae was molded over a dead man's face. It was believed by the Mycenaeans that this mask would preserve, by magic, the facial features and possibly the whole body of the deceased person. Masks were also put on the corners of temple roofs, in tombs, and in fields to frighten away evil spirits. Masks in ancient Greece enabled a single actor to play a variety of roles in the theater. Theatrical masks were designed to amplify the sound of an actor's voice in the open-air theaters. The masks and costumes of today's carnivals and masquerades are rooted in the ancient Greek traditions of masks, costumes, and drama.

VOCABULARY

tsunami—
A tremendous tidal wave that is created as the result of an undersea earth movement or volcano.

Mycenae—
Site in the Peloponnese area of Greece which was excavated by Heinrich Schliemann and thought to have been the palace of King Agamemnon.

cyclopean—
Gigantic, enormous, massive. Pertaining to the Cyclops, one-eyed gods of Greek mythology. The walls of Mycenae were believed to have been set by the Cyclops because they were of such enormous size.

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VOCABULARY

acropolis—
The upper fortified part of an ancient Greek city.

Parthenon—
The Doric temple of Athena, built by ancient Greeks on the Acropolis in Athens during the fifth century B.C.

relief—
A form of sculpture in which a flat surface is cut away in areas (or built up in areas) creating a raised design.

Pheidias—
Renowned Greek sculptor who supervised the building of the Parthenon.

frieze—
In architecture, a horizontal border around a room or building usually decorated with sculpture.

Drama originated in religious and ritual practices and eventually evolved into a form of entertainment. By the fifth century B.C., two types of plays emerged in Greece: comedy and tragedy. Ancient theaters are found throughout the area that was inhabited by the Greeks. Some of these theaters—such as the theater at the base of the **acropolis** in Athens—are still in use today. The acoustics of these theaters are so fine that, even from the uppermost seat, one can hear a coin drop or the whispers of actors. The theater was attended enthusiastically and regularly by ancient Greeks.

Artifactoid

In the 1800s, most of the marble sculptures from the Parthenon were removed by Lord Elgin and today reside in the British Museum. The Greek government continues to lobby for their return to Athens. The sculptures are known as the "Elgin Marbles."

RELIEF SCULPTURE

Archaeologists have found **relief** carvings in many ancient sites throughout the Aegean region. Some of the most beautiful examples are located on the pediments and frieze of the **Parthenon**, a magnificent Doric temple that was built on the ancient acropolis in Athens, Greece and dedicated to Athena, the Greek goddess of wisdom.

The Parthenon carvings are believed to have been made by **Pheidias**, a renowned Greek sculptor who supervised the building of the Parthenon. The 525-foot exterior **frieze** of the temple portrays the battle of the centaurs—mythical creatures with the head, arms, and torsos of men and the legs and lower bodies of horses—while the inner frieze shows a procession honoring Athena. Archaeologists have found evidence of pigment particles in the reliefs which suggests that the bright white marble surface that is seen today was originally painted. Although reliefs such as those found on the frieze of the Parthenon or many ancient temple walls are very large, some reliefs are quite small, such as those used in decorations found on cosmetic containers. A relief carving can be very shallow or deep enough to free the subject from the background, making it a completely three-dimensional sculpture.

West Face of the Parthenon, Acropolis, Athens, Greece © 1994 by 'Leni Schumacher.

GREEK POTTERY

The vases created by ancient Greek artists are incredible works of art that were highly valued by the Greeks both for their functional uses and their exquisite beauty. Greek vases were considered prized possessions, worthy to be used as grave markers or to be given as gifts and trophies. For example, as a prize for winning an event in the Olympic games (which originated in Olympia, Greece), an athlete would be given an amphora vase. The event which he won, information regarding the particular game, or the game location would be depicted on one side, and on the other side, a Greek god or goddess would be shown. Other vases were decorated with narrative paintings showing the various activities of the ancient Greeks and their gods. Archaeologists have learned a great deal about ancient Greek society by studying these paintings. Vases and bowls were sometimes signed in the first person as if the pieces were speaking: "I was made by Exekias." Others were signed by both the potter and the painter, leading archaeologists to believe that Greek artists took pride in their work.

Archaeologists are able to determine the age of Greek vases by looking at how they are decorated and glazed. Five time periods are used to classify early Greek pottery:

Geometric Period (850–700 B.C.) with stick-arm figures and horizontal bands of detailed geometric designs.

Orientalizing (700–600 B.C.) with narrative designs and strange beasts, less geometric bands.

Archaic (650–480 B.C.) with legends, mythology, and figures in black.

Archaic (500 B.C.) with figures in red, background in black.

Classical (480–323 B.C.) with figures more natural, background in white, and with black and reddish glazes.

There are six basic styles of Greek vases, each used for a particular function. They are listed below from the most commonly found to the least commonly found:

MOST COMMON →

← LEAST COMMON

	STYLE	FUNCTION/USE
	amphora	Meaning "to carry on both sides." Vase with two handles, a large opening for hands or ladle, and usually, a lid. Used mainly for storage (grain, oil, honey, wine).
	krater	From the Greek word, "to mix." A bowl for mixing wine with water.
	kylix	Meaning "to roll." A wine drinking cup, made by being turned on a potter's wheel.
	hydria	From the Greek word for water. Each had three handles: two for lifting, one for carrying.
	lekythos	Oil flask having a long neck to pour oil slowly. Mainly used for funerals.
	oenochoe	Meaning "to pour out wine." A jug for liquids, with a pinched lip to facilitate pouring.

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VOCABULARY

Linear B—
An early form of writing developed from Linear A script and thought to be an early form of the Greek alphabet.

Michael Ventris—
The British architect who deciphered Linear B in 1952.

Linear A—
An early form of writing mostly found on seals and pictographic in nature. This writing has yet to be deciphered.

SEAL-STONES

Seal-stones were cylindrically shaped implements made of clay or semiprecious stones that were used by ancient people to stamp clay documents and containers. To make a seal-stone, a clay cylinder or disk was incised with a nobleman's signature or a symbol which represented that person. Some seal-stones also depicted scenes of events. When a person wanted to sign a document, which was usually a tablet made of moist clay or wax, they rolled their seal-stone over it. The seal-stone would leave an impression of that person's signature, thereby "signing" their name to the document. Archaeologists have found seal-stones in their excavations at both Knossos and Mycenae. These stones are inscribed with an ancient writing known as **Linear B**, believed to be the writing from which the Greek alphabet developed. Linear B was deciphered by a British architect named **Michael Ventris** in 1952. As a young man, Ventris heard a lecture by Sir Arthur Evans in which Evans described his excavations at Knossos and his discovery of seal-stones inscribed with a writing that no one knew how to read. Intrigued by this mysterious writing, Ventris set out to crack the code of Linear B, just as Jean-Francois Champollion translated the hieroglyphic writing of the Egyptians (see pages 29–30). An even older writing, called **Linear A**, remains undeciphered.

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Activity

Relief Carving

CONTENT STANDARD: 4
Understanding the visual arts in relation to history and cultures

GRADES: 4–8

ACTIVITY OBJECTIVES

Students will learn:

- to create and carve a clay slab
- to create a relief
- to use repetition as a design element

SETTING THE STAGE

To prepare your students for the Relief Carving activity, introduce the background information on relief sculpture (page 60) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Slide #517A from your *Art & Archaeology* slide set (optional)*
- newsprint paper
- pencils

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

- rollers (wooden dowels or other implements to roll and flatten clay; one roller per four students)
- carving tools for incising clay (large nails, pencils, pointed sticks, etc.)
- miscellaneous objects for imprinting designs (seashells, screws, kitchen gadgets, small toys, etc.)
- plastic knives
- clay
- plastic drycleaning bags (optional)

SESSION THREE

- tempera, acrylic paints, or shoepolish

ACTIVITY

SESSION ONE

Introduce the Relief Carving activity. Tell your students that they will design and create a relief carving of a subject of their choice that incorporates the principle of repetition.

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Greek Relief Carving
© 1996 by 'Leni Schumacher.

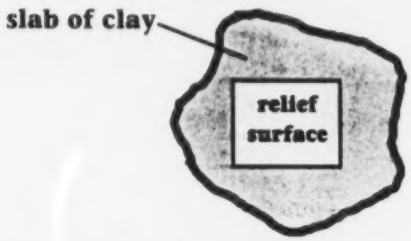
Discussion
Display the *Art & Archaeology* poster and have your students look at the image captioned "Greek Relief Carving" and/or have them look at slide #517A from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- How would you describe this relief?
- What is the subject?
- Is the design simple or complex?
- How would you describe the shapes? Are there a few or many? Are they large or small? delicate? curving? geometric?
- Are there any shapes or lines that are repeated? Where? Does the repetition create movement? pattern? unity?
- Is there a border around the relief? Describe it.
- Does the relief portray an event? an important idea?
- Does it express a feeling? fear? joy? power?

Preliminary Drawings
Distribute newsprint paper and pencils to your students. Instruct them to do a series of preliminary sketches the actual size of their relief as a way of planning their relief designs. Ask them to sketch their ideas for their relief carving inside of a square, rectangle, or other geometric shape. The outside shape of the relief is important to consider during the planning stages. When they are finished sketching, ask students to each select a sketch they would like to use as the design for their relief sculptures. Review their sketches to check for their understanding of the concepts.

SESSION TWO
Review the concept of relief carving. Tell your students that they are going to begin working with clay to create their relief carvings.

Creating the Relief Surface
Using a roller of some type, demonstrate how to roll a clay slab about 1/2" to 3/8" thick. Using a plastic knife, cut the slab of clay into the shape selected in the preliminary relief sketch (from Session One) to demonstrate how to create the carving surface for a relief. Example:



Show your students your relief surface of clay and explain that the next step is to carve into that surface with a variety of tools to create the relief. Lightly "draw" your complete design in the clay slab. After your design is complete, clean and smooth the edges of the carved surfaces with your fingers or a tool.

IMPORTANT: Be sure to stress the importance of carving *into*, but not completely *through*, the clay slab.

Creating Border Designs
Demonstrate how to stamp or carve repeated shapes around the outside edges of the relief slab to create a repeated border design. Shapes might be circles made with a pencil, lines made with a stick, or a natural pattern made with a seashell. Demonstrate how to use a variety of objects/tools to create a pattern. Finally, use a pointed tool to punch one or more holes completely through the relief to prepare it for hanging. Make the hole(s) about 1/2" from the top of the relief.

Distribute the materials and allow students the remaining class period to create their relief sculptures. If your students do not complete their carvings before the end of the class period, instruct them to carefully wrap their clay slabs in several layers of plastic drycleaning bags. The plastic will maintain the moisture of the clay until students are ready to work on it again.

When your students have completed their works, allow their relief carvings to air dry. Fire the carvings in a kiln.

SESSION THREE
Demonstrate one or more of the following techniques for finishing pottery:

Paint: Paint the fired reliefs with opaque or translucent tempera or acrylic paints.

Shoepolish: Polish clay with clear shoepolish to maintain the natural clay color and protect the surface of the relief.

Multiple Shoepolishes: Polish clay with one or more colors of shoepolish to create different color designs and protect the surface of the relief.

ACTIVITY ASSESSMENT

- When shown various examples of artworks, students are able to identify the technique of relief carving.
- Students are able to describe the relief carving process.
- When given clay, students are able to create a relief carving with a repeated design.

EXTENSIONS/CONNECTIONS

- Have students create clay molds and fill them with plaster. After the plaster has hardened, have them remove it from the mold and finish as described in Session Three of this lesson. NOTE: Refer to a ceramics resource for detailed instructions for making molds.
- Have students make a three-dimensional block using a plaster or papier mâché product. Have them carve their blocks to create sculptured heads with faces. CAUTION: Always check art materials for toxicity. School art suppliers have information about the toxicity of their products.

ACHIEVEMENT STANDARDS
K–4 (a) Know that the visual arts have both a history and specific relationship to various cultures

5–8 (a) Know and compare the artworks in various eras and cultures

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Activity

Pinch Pottery

CONTENT STANDARD: 5
Reflecting upon and assessing the characteristics and merits of their work and the work of others

GRADES: 4–7

OBJECTIVES

Students will learn:

- to identify the different parts of a vessel using the appropriate vocabulary
- to build a pinch pot with a mouth, neck, shoulder, stomach, and foot
- to embellish a pinch pot with painted designs

SETTING THE STAGE

To prepare your students for the Pinch Pottery activity, introduce the background information on Greek pottery (pages 60–61) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- red clay
- Name the Pottery Part reference sheet*

* See Reproducible Masters section beginning on page 101 of this resource.

SESSION TWO

- black and white paint, clear shoepolish, or multiple colors of shoepolish
- fine paintbrushes

GETTING READY

Make a copy of the Name the Pottery Part reference sheet for each student.

ACTIVITY

SESSION ONE

Introduce the Pinch Pottery Activity. Tell your students they will be creating clay pots using pinch-modeling techniques, and painting their pots with a variety of designs.

Modern Amphora with Greek Designs © 1996 by Leni Schumacher.

Discussion

Display the *Art & Archaeology* poster and have your students look at the image captioned "Modern Amphora with Greek Designs." Use the following sample questions to lead a discussion:

- How would you describe the outside shape of the pot? Is it straight or curved?
- What color is the pot? What colors were used to paint the designs?
- Are there figures of people on the pot? How many? What are they doing?
- What other designs were used to decorate the pot? Do the shapes have straight or curved edges?
- Are there lines? Are they thick? thin? jagged? curved? Do you see any lines or shapes that are repeated? Where?

- Does this pot look delicate and light or sturdy and heavy? Why?
- Does this pot look new? old? used?
- How do you think the pot might have been used? Why?

Name the Pottery Part
Distribute one copy of the Name the Pottery Part reference sheet to each student. Ask students to look carefully at the body of the discus thrower and the body of the vessel. Ask them to name the parts of a vessel by using the arrows that point to the body of the discus thrower as clues to the appropriate terms.

Creating a Pinch Pot
Demonstrate how to make a pinch pot using a small ball of clay about the size of a baseball. Place your thumbs in the center of the ball and rotate the clay to create a center opening. Continue rotating the clay to make the walls of the pot. Demonstrate how to form the mouth, neck, shoulder, stomach, and foot of the pot. Gently tap the bottom of the pot on a table to flatten it so that the pot will stand evenly on the foot. Gently tap the top rim, or mouth, of the pot on the table to smooth and even out the top of the pot.

Decorating a Pinch Pot
Distribute the clay to your students and allow the remaining class period for making pots. Allow the pots to dry thoroughly. Bisque-fire them in a kiln.

SESSION TWO
Demonstrate a variety of ways to decorate and finish the pots:

Paint: Paint the fired pots with opaque or translucent black and white paints. Red clay should be left showing on portions of the surface.

Shoepolish: Polish clay with clear shoepolish to maintain the natural clay color and protect the surface of the pot.

Multiple Shoepolishes: Polish clay with one or more colors of shoepolish to create different color designs and protect the surface of the pot.

Encourage students to use repetition and create patterns on their pots.

ACTIVITY ASSESSMENT

- When given clay, students are able to build a pinch pot and decorate it with painted designs.

EXTENSIONS/CONNECTIONS

- Duplicate the Amphora Template (see Reproducible Masters section beginning on page 101 of this resource). Have students decorate the feet and neck of their amphora forms with patterns, and draw mythical creatures on the amphora belly. Have students color their work. This activity is useful for helping students plan designs for actual clay pots.

ACHIEVEMENT STANDARDS
K–4 (a) Understand there are various purposes for creating works of visual art

5–8 (b) Analyze contemporary and historic meanings in specific artworks through cultural and aesthetic inquiry

Activity

Mask Making

CONTENT STANDARD: 6
Making connections between the visual arts and other disciplines

GRADES: 5–8

OBJECTIVES

Students will learn:

- to create a mask using plaster gauze
- to decorate a mask that expresses a strong emotion

SETTING THE STAGE

To prepare your students for the Mask Making activity, introduce the background information on Greek masks (page 59) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Slide #6171 from your *Art & Archaeology* slide set (optional)*
- quick-drying plaster gauze roll cut into 24 strips of 2" x 3" per student
- bowl of warm water per two students
- bath towels
- shower caps, rubber bands, and bobby pins
- scissors
- petroleum jelly
- plastic masks to use as molds (for those students who do not wish to have plaster put on their faces)

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

- all materials used in Session One

SESSION THREE

- tempera paint
- feathers
- beads or buttons
- glitter
- paper tubing
- masking tape
- white glue
- colored markers
- yarn
- elastic string and/or tongue depressors

ACTIVITY

SESSION ONE

Introduce the Mask Making activity. Tell your students that they will use plaster gauze to create and decorate emotionally expressive masks.

Discussion
Display the *Art & Archaeology* poster and have your students look at the image captioned "The So-Called Mask of Agamemnon" and/or the images captioned "Greek Comedy/Tragedy Masks" and/or have them look at slide #6171 from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- How would you describe this mask?
- What materials were used to make it?
- Does this mask look delicate and light or sturdy and heavy? Why?
- Does this mask look new? old? used?
- What emotion does the expression on the mask suggest? Does it express fear? happiness? anger? What qualities of the mask contribute to the expression?
- How would you describe the decoration of this mask?
- How do you think this mask might have been used? Why?

The So-Called Mask of Agamemnon, National Museum, Athens, Greece © 1994 by 'Leni Schumacher

Greek Comedy/Tragedy Masks, Clay Samples © 1996 by 'Leni Schumacher

Creating the Mask
Divide your students into pairs. Explain that one student in each pair will apply gauze to the other's face to create a gauze mask (during the next class meeting, partners will trade roles so that every student can create a mask).

Demonstration
Use one student to demonstrate the mask-making technique. Protect the student's hair by pulling it away from his or her face and securing it with bobby pins, a head band, and/or a shower cap. Apply a generous coat of petroleum jelly to the student's entire face and chin line, making sure to cover eyebrows and any facial hair. Place a towel over the front shoulders and chest of the student and ask the student to lay down on his or her back on the floor or a table. Place a small pillow or towel under the student's head, checking to be sure he or she is comfortable before you begin. Stress the importance of working quietly while making the mask.

Place a bowl of warm water and cut gauze strips near the head of the student. Dip one strip at a time into the bowl and press out the excess water between-two fingers. Do not wring the gauze, as it is difficult to unfold and flatten once it is wet. Apply gauze to the outside edge of the student's face. Overlap the gauze strips and smooth their surface as you work. Circle around the entire face with gauze strips, but DO NOT WRAP AROUND OR UNDER THE CHIN AREA. Next, cover the forehead, the bridge between the eyes, and the nose. Leave the nostril area uncovered. Apply gauze under the nose and under the mouth. Leave the lips uncovered. Apply gauze to the cheek area, overlapping onto previously applied strips. Pay particular attention to these areas: outer edges of eye, between the eyes, under the nose, as these places tend to be narrow and need extra support. Stress the importance of working carefully around the eyes so that water does not run into them (also encourage students to keep their eyes closed while they are having their mask made). Repeat the same process two more times, applying three layers over the student's entire face. The mask will begin to harden as you work. Wait a few moments after you have added your last strip of gauze. If the mask feels hard, remove it by inserting your fingers under the mask and around its edges. The mask will pop off your student's face. Lay it aside and demonstrate how to help your student clean his or her face. Use tissues to wipe away the petroleum jelly and any bits of plaster. Remind students that after they have completed the first partner's mask, they will switch partners and repeat the same process.

Building the Masks
Ask your students to repeat the process they just witnessed. Distribute the materials. Be sure you have enough class time to complete one set of masks.

HINTS FOR SUCCESS:

- Rotate throughout the room helping students apply gauze when needed.
- Ask your students to work without talking.
- Keep the atmosphere very relaxed. Play soft music.

SESSION TWO
Review the directions for the mask-making activity. Have students build masks on the partners who built masks during the previous session.

SESSION THREE

Decorating
Discuss a variety of ways to decorate a mask. Show students the materials (paint, markers, feathers, trim, etc.) that you have available for decorating. Have students select an emotion they would like to express on their masks. Ask them to select colors and materials that will contribute to expressing the emotion they select. Have them make a small sketch of their mask and how they would like to decorate it. Review their ideas and discuss the order in which they will use the materials (i.e., use paint first and let it dry completely before gluing other materials to the surface).

Distribute the materials and allow the remaining class period for decorating. Students may need more than one class period to complete their masks.

Finishing
For students to wear their masks:

- have them poke two small holes in each side and string with elastic thread or
- have them attach a tongue depressor to the chin area with hot glue, allowing the mask to be easily held and removed.

ACHIEVEMENT STANDARDS
K–4 (a) Understand and use similarities and differences between characteristics of the visual arts and other art disciplines

5–8 (a) Compare the characteristics of works in two or more art forms that share similar subject matter, historical periods, or cultural context

ACTIVITY ASSESSMENT

- Students are able to create a mask using plaster gauze.
- Students are able create a mask that expresses a strong emotion.

EXTENSIONS/CONNECTIONS

- Have students write poetry or short plays based on mythological tales. Dramatize or recite with masks.
- Have students research masks of other cultures. Have them compare and contrast the uses and styles.

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AESTHETICS INQUIRY FOR CHAPTER FIVE

Aesthetic inquiry involves students in the perception, understanding, and appreciation of works of art. When we involve our students in aesthetic inquiry, we challenge them to consider important questions, sometimes referred to as the "big questions" that concern art in general. These questions may have many answers, depending on your point of view. It is important to raise these issues with your students, because such issues have the potential to deepen their understanding and appreciation of art. The concepts in the following questions are suitable for students of all ages. You may choose to rephrase some of these questions depending on the age level of your students.

1. The Greeks created objects that they considered to be very beautiful. Today most people agree that this is true and appreciate the beauty of Grecian art. Do you think that beauty is an important quality of art? Does beauty determine the value of art? If so, how? If not, why not?
2. Do you think that beautiful architecture such as that found in Greece is art? If so, in what way? If not, why not?

ASSESSMENT FOR CHAPTER FIVE

- Students are able to define and discuss the vocabulary presented in the chapter.
- Students are able to discuss a variety of ancient civilizations of the Aegean region.
- Students are able to name different types of artifacts and significant architecture produced by ancient civilizations in the Aegean region.
- When given examples of Greek pottery forms, students are able to identify the forms and differentiate them from one another.
- Students are able to discuss the role of seal-stones in relation to communication.
- When given examples of Greek masks, students are able to recognize them and discuss why they were made.

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Chapter 6
Pompeii

CHAPTER OBJECTIVES
Students will learn:

- that the city of Pompeii was covered and preserved for centuries by volcanic material from the eruption of Mount Vesuvius
- that Pompeii was influenced by both Greek and Roman civilizations
- that the people of Pompeii created sculptures, frescoes, architecture, and coins, among many other artifacts

CITY OF ASHES

One warm August day on the coast of what is now Italy, the people of an ancient Roman city called **Pompeii** felt the earth rumble beneath their feet. Fearful and perplexed, they looked around to see their wells and streams suddenly drain away. Some of the more wealthy citizens and those who feared disaster left the city, but many others—especially slaves and shop owners—remained in Pompeii. They were unaware of the horrific and eminent danger stirring within neighboring **Mount Vesuvius**.

On August 24, 79 A.D., lava pebbles and hot pumice stones fell from the Pompeiian sky like burning hail. Mount Vesuvius had blown its top in one of the most devastating volcanic eruptions in history: it was ten times more powerful than the famed eruption of Mount Saint Helens in Washington. Terrified Pompeiians fled, in vain, to escape the hot gases and magma that flowed from the eruption over their town. At first, people died almost instantaneously from inhalation of the poisonous gases. Soon after, their bodies were showered with a thick blanket of fiery ashes. The ashes mixed with falling rain to create an airproof, cement-like seal, three stories in height, that covered all of Pompeii. Enveloped in this burning hot cement, the bodies of Pompeiians disintegrated; only cavities remained in their place. Over 12,000 of the 50,000 citizens of Pompeii died in the eruption of Mount Vesuvius. Because the volcanic material blanketed the entire city, Pompeiian homes were literally sealed and preserved for centuries.

All of the information that historians have about the eruption of Vesuvius was obtained from the letters of **Pliny the Younger**, a man whose uncle, Pliny the Elder, a natural scientist, died while trying to reach Vesuvius to see and study a volcano firsthand. Pliny the Younger stayed behind with his aunt, awaiting his uncle's return. However, he was close enough to Pompeii to witness the events and aftermath of the eruption.

The eruption of Mount Vesuvius was so strong and the spread of its volcanic materials so substantial that the courses of nearby rivers were changed. Beaches were built up so that, after the eruption, Pompeii was actually located further from the sea than it had originally been, obscuring its whereabouts for hundreds of years. In 1748, when a canal digger working in Italy unknowingly struck a part of a brick wall from the buried city while digging, a mad hunt for "treasure" ensued and continued over the next eighty years. All the while, nobody realized exactly what was being uncovered. People in the area bought up the property and sold artifacts

VOCABULARY

Pompeii—
An ancient resort town near the coast of Italy, where wealthy Roman citizens came to vacation and live. It was buried and preserved in 79 A.D. in debris from the volcanic eruption of neighboring Mount Vesuvius.

Mount Vesuvius—
A volcano that erupted August 24, 79 A.D. and covered the city of Pompeii.

Pliny the Younger—
(c. 62–114 A.D.) Man who wrote letters to a historian named Tacitus, giving an account of the 79 A.D. eruption of Mount Vesuvius, thereby providing written documentation of the event for later historians to study.

VOCABULARY

Giuseppe Fiorelli— (1807–1882) Professor of archaeology at Naples who was responsible for the main excavations at Pompeii.

Vitruvius— Roman author of ten-volume work about Greek and Roman architecture in the first century B.C.

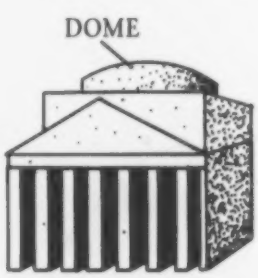
and "treasures" to the high-class citizens of Europe. There was no organized effort to compile information about any of the items which were found. Finally, in 1864, an archaeologist named **Giuseppe Fiorelli** was hired to excavate the site. When Fiorelli came to Pompeii, he immediately put a stop to the plundering of the site and instituted archaeological rules for all of the excavators to follow. He gridded out the area and excavated systematically, house by house. He also developed an ingenious method of injecting plaster into the cavities left by disintegrated bodies of animals and humans, architectural structures, and objects such as furniture or utensils. After the plaster hardened, Fiorelli chipped away at the surrounding cement-like ash to reveal nearly perfect impressions of the people or objects that had disintegrated inside of the cavities. Even the soles of shoes were captured in detail by the plaster impressions. The plaster impressions of people were fine enough to show the wrinkles, moles, and scars of their faces.

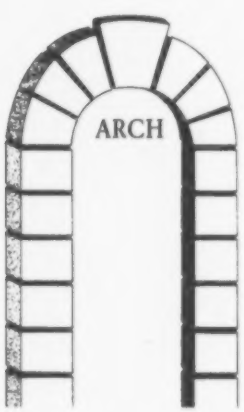
Artifactoid

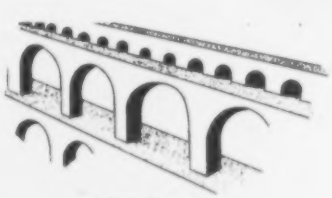
Fish, breaded mice, and even nightingale tongues found in the kitchens of Pompeii tell archaeologists of the diet of wealthy Pompeiians.

It is a very eerie feeling to tour the homes and stores of Pompeii. So many details of domestic life were left frozen in time as people fled the catastrophe. Even loaves of bread and a prepared lunch were discovered on a kitchen table, as if the people were about to return at any moment. Before the discovery of the Pompeii site, very few bodies of Romans from the time of Pompeiian civilization had been found. Fortunately, because of Fiorelli's work, archaeologists have been better able to study the lives of ancient Romans.

Originally a Greek village, Pompeii acted as a seaport with surrounding walls to provide protection from invaders. Outside of these walls were tombs, placed there by Pompeiians to keep the dead from roaming the city at night. When the Romans took over the city, Pompeii's Grecian architecture began to include traditional Roman attributes: arches, domes, aqueducts, public baths with radiant heating, and amphitheaters. Archaeologists have learned about Greek and Roman architecture from writings contained in a ten-volume book by a Roman architect and engineer named **Vitruvius** who lived in the first century B.C. Many buildings of modern times—such as universities, museums, and libraries—have been inspired by Vitruvius' work.







AQUEDUCT

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Archaeologists have learned that a typical Roman home, or **domus**, had a central courtyard with an open ceiling through which light entered. It also had rooms decorated with wall murals, frescoes, or mosaics. Some wealthier homes also had running hot water and bathtubs. Poor people lived in two or three-story apartment-like dwellings called **insulae**, most of which had no kitchens or baths. These people could bathe in public baths and purchase prepared food on the main streets. The Romans had an interesting tradition of always stepping into a person's home with the right foot. This tradition stemmed from their belief that the left side of the body was evil or sinister. The English word "sinister" comes from this idea: its Latin root *sinistr-* means both "left" and "unlucky." In Roman homes, near the entry and to the right, was usually the **lararium**, the shrine to the household gods. The heads of Roman households offered prayers and gifts to these gods daily.

From the many artifacts uncovered at Pompeii, archaeologists know that the artisans there were skilled craftsmen. They created works in marble, metal, and glass, and used these to beautify themselves and their environment, as well as to commemorate important events in their lives. Some of the artifacts uncovered included sculptures of Roman conquests and emperors. Elaborate temples, built in honor of the many gods that the Romans adopted from Greek culture, were also discovered. Romans changed the names of their Gods, but retained the attributes ascribed by the Greeks. Near the forum at Pompeii, the Romans built a large temple for Jupiter, the king of Gods (the Roman version of the Greek God Zeus). Sculptures of Venus, the goddess of love (the Roman version of the Greek goddess Aphrodite) were located throughout Pompeii, probably because Pompeii was a resort city for the wealthy.

Through the discovery, analysis, and interpretation of the Pompeiian sculptures, frescoes, architecture, coins, and other artifacts, archaeologists have been able to provide a tremendous amount of information about the religion and lifestyles of the Pompeiian people.

FRESCOES

Pompeii is one of the few archaeological sites in Italy that has perfect examples of ancient Roman wall paintings. The walls in the homes of wealthy citizens of Pompeii were covered with paintings called **frescoes**. Fresco is an ancient art form and style of decoration. It has been found in Knossos and other ancient Greek cities; in Egypt, within the tombs and temples; and in Roman colonies throughout the area of the Roman Empire. The brightly colored frescoes found in Pompeii decorated rooms just as wallpaper does in our homes today. The paintings were of landscapes, still lifes, Roman and Greek myths, and people going about their daily tasks. A room known as the Ixion Room in the **House of the Vettii** at Pompeii has fresco paintings that were made to look like open windows. This effect was achieved through the use of simple perspective techniques. There are also examples of frescoes that were painted to look like marble. Many of the wall frescoes resemble stage backdrops, because theater was an important part of life in Pompeii.

Artifactoid
During the Renaissance, fresco was the technique used by Michelangelo in painting the Sistine Chapel walls and ceiling.

According to the writings of Vitruvius, a fresco is a wall that is prepared with ingredients for plaster—limestone, calcite, and sand—in three coats. Three coats of powdered marble are added before the wall is polished and painted in sections. After the base colors of paint have dried, details are painted onto the surface. A coat of melted wax and oil is added, and finally, the wall is polished to shine. There are two

VOCABULARY

domus—
Term used to describe ancient Roman single-family house with atrium.

insula—
(pl. insulae) A Roman city block with dwellings resembling apartment buildings, built around a central area of the city.

lararium—
Located to the right of the entryway in ancient Roman homes, this was a shrine to the household gods.

fresco—
Method of painting on a wall or a celining into damp plaster *(buon fresco)* or dry plaster *(fresco secco)*.

House of the Vettii—
Dwelling of the wealthy Vettii family in anicent Pompeii.

VOCABULARY

Sumer—
The southern division of ancient Babylonia, a region in what is now Iraq.

tesserae—
(s. tessera) Bits of clay, stone, or glass used in mosaics and stained glass windows.

other techniques of fresco as well: *buon fresco*, which is done on damp plaster, and *fresco secco*, which is done on dry plaster. In both types, plaster is spread onto a surface and allowed to set and harden. A sketch, called a "cartoon," is drawn on paper, and holes are poked through the paper at intervals along the lines of the drawing. Then the paper is placed over the plaster surface. A pounce or bag filled with powdered charcoal is hit along the lines of the cartoon causing the charcoal to go through the holes. When the paper is removed, a dot-to-dot style drawing is left behind on the plaster. The dots are then connected with lines in order to complete the shapes before the actual painting of the fresco begins.

MOSAICS

Mosaics are a type of artwork in which small bits of solid material—usually stone, clay, or glass—are adhered to a flat surface to create a design. When viewed from a distance, the thousands of colored pieces that comprise a mosaic give the optical illusion of blending together. For example, a bold blue piece next to an orange one gives the effect of a darker shadow. The first mosaic artworks are believed to have been created by civilizations in **Sumer** as far back as the 3000 B.C. Mosaic art was developed upon by the Greeks, and many of the mosaics in Pompeii were actually created by Greek artists hired by wealthy Romans. Mosaic art was eventually adopted by Roman artists, who advanced it into a high art form that appeared throughout the Roman Empire. Mosaicists of ancient Rome acquired their craft through apprenticeships and years of practice.

Artifactoid

One famous floor mosaic in Pompeii is that of a dog on a leash. Made with black and white tiles for an entryway to a house, it says *Cave Canem*, which means "Beware of Dog" in Latin.

Roman mosaics were created in all sizes: some were as small as a human hand, while others were as huge as a gymnasium floor. In fact, in Pompeii, archaeologists uncovered entire mosaic floors that look like elaborately colored carpets. The Romans sometimes tried to replicate a room's floor mosaic onto the ceiling in order to create a mirror effect. The subjects of Pompeiian mosaics were mainly the theater, sports, feasts, festivals, mythology, daily life, and the seasons. Some mosaics did not necessarily have a subject or a theme, but were created purely as decoration.

The process of creating mosaics involved imbedding small pieces of colored material into wet plaster or cement. Early mosaics were made from marble pieces and were therefore limited to shades of gray, brown, white, and rust. Eventually, more colorful bits of material, called **tesserae**, were used. The cement into which these pieces were embedded was made of ground limestone mixed with sand and water. One method of creating a mosaic with these materials was to smooth out the working surface—such as the ground or a wall—and spread a thick layer of cement onto a small section of it. A portion of the design was then incised on the cemented section. Before the cement hardened, tiles were imbedded into it to color and outline the design. This process continued, section by section, until the entire mosaic was complete.

Another method of setting mosaic tiles was to draw a design onto a piece of wood, papyrus, or canvas. The tile pieces were set into place over the drawn design. Then a linen cloth was glued on top of the tiles. The surface where the mosaic was to be attached was prepared, section by section, with wet cement. The linen with tiles was placed over the wet cement. When the cement dried, the linen cloth was removed from the tiles. The tiles were then grouted with cement and polished. This technique is very similar to the techniques used today by mosaic artists.

The production of mosaics did not die with the ancient Roman civilization, nor did it take place only in their region of the world. Mosaics appear in the work of civilizations across the world and throughout history. During the third, fourth, and fifth centuries A.D., the Christian religion dictated the subject matter of mosaics and financed the production of countless numbers of them. These mosaics can still be seen in areas of the **Byzantine Empire** (Italy, Greece, Near East). Ancient mosaics have survived the centuries because of the durable materials from which they were made. These wonderful artworks and the subjects they depict give archaeologists a clearer picture of what life was like for early peoples.

COINS

Coins evolved in response to increases in trade across vast distances. Portable items of value were needed in order to make exchanges and purchase goods. Early coins were made by pouring molten metals into molds. Their designs often included an emperor's face and name on one side, and an animal, a scene from daily life, or a depiction of a god on the other. Coins in general often reflect the cultural, religious, political, and institutional beliefs of the people who create and use them. For that reason, coins found at archaeological digs are excellent clues to the past. A great deal of information can be learned about a culture through the analysis and interpretation of the coins that they leave behind. Archaeologists examine how the coins at a site were made and what pictures and designs they include. Also, the location of coins within a stratum can be very valuable in helping archaeologists date that layer of a site. Archaeologists skilled in **numismatology** can identify the composition and origin of a coin.

Artifactoid

Archaeologists have found ancient peoples buried with coins in their mouths. This practice might have been intended to provide payment for the deceased's journey to the next world.

The ancient Romans called their small silver coins **denarii**. When a shortage of silver developed, bronze and other metals were mixed with the silver. Roman coins have been found on many continents due to trade and warfare. The Romans often issued a new coin for each of their empire's conquests.

Another notable coin is the Janus coin. Janus was a Roman god who guarded entryways and was the patron of beginnings and endings. The month of January is named for him, because it is the beginning of a new year and the ending of an old one. In order to keep sight of both the beginning and ending of any undertaking, Janus is always depicted with two faces—one in front and the other in back of his head. In ancient Roman times, if someone was said to be "Janus-faced," it meant that person was deceitful or two-faced.

Artifactoid

Archaeological evidence of the first coin minted was found in Turkey from around 700 BC., but China may have been the place where coins were first invented. Artifacts shaped like small tools such as a hoe from 1100 B.C., then circular pieces of metal with a square hole in the middle, have been found in China. These circular artifacts were called "cash."

VOCABULARY

Byzantine Empire—
The governmental empire that developed from the Roman Empire when, in the fourth century A.D., the Roman Emperor Constantine moved the empire's capitol city from Rome to Byzantium, a city which he renamed Constantinople after himself. It is today's city of Istanbul, Turkey.

numismatology—
The science of coin collection and identification.

denarii—
Small silver coins used by the ancient Romans.

VOCABULARY

toga—
Typical Roman garment consisting of a large piece of material draped over one shoulder and tied at the waist.

SCULPTURE

Pompeii had sculptures that run the gamut of styles for the Greeks and Romans. The Greek influence on sculpture of Pompeii spanned over many centuries.

PERIOD	DATE	CHARACTERISTICS
Geometric	(900-600 B.C.)	Sculpture (mostly bas-relief) of animals, gods, goddesses, and mythical creatures. Sharp geometric angles and less realism.
Oriental	(700-600 B.C.)	Influence of the Near East. Archaic statues in this period.
Archaic	(650-480 B.C.)	Kouros and Kore statues, rigid in their stance and following canon: Kore with braids and clothing, Kouros with hands at side and nude, one foot stepping forward (similar to Egyptian canon), both with frontal stares and faint smiles to indicate a life force.
Classical	(480-323 B.C.)	Contrapposto stance or weight shift, statues no longer rigid, more humanlike, with more realistic facial expressions, heads tilted, muscles showing movement, and athletic poses. However, figures were still depictions of young, healthy, idealized humans.
Hellenistic	(323-30 B.C.)	Very realistic in expression, showing emotions such as fear and pain. Movement shown in windblown drapery and composition.

The Romans continued realism and drama in their sculpture. Marble sculptures of faces depicted every wrinkle and physical attribute, whether beautiful or not. Marble copies of bronze Classical and Hellenistic statues were made to decorate Roman homes and public areas. Sculptures of important citizens and members of the imperial family in their **togas** adorned numerous buildings throughout the Roman Empire. Borrowing the realistic style of Greek sculpture, the Romans made their statues in what they believed were the ideal proportions of the human body.

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Activity

Fresco Painting

CONTENT STANDARD: 4
Understanding the visual arts in relation to history and cultures

GRADES: 4–8

OBJECTIVES

Students will learn:

- to draw inspiration for subject matter from daily life
- to use a cartoon (sketch) to transfer their drawing to a plaster surface
- to create a fresco painting

SETTING THE STAGE

To prepare your students for the Fresco Painting activity, introduce the background information on fresco painting (page 75–76) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Slide #601F from your *Art & Archaeology* slide set (optional)*
- Plaster of Paris (15 lbs. per 30 students)
- 8 oz. styrofoam or deep plastic plate (one per student)
- large mixing bowl (not used for food)
- measuring cup
- water
- large spoon
- pencils
- newsprint

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

- students' completed cartoons (sketches)
- pencils
- paper towels
- thin tempera paint in a variety of colors
- water cups
- brushes

GETTING READY

Follow instructions on the Plaster of Paris packaging to prepare plaster for pouring. Once it is mixed, pour the plaster into the plates (1/2" to 3/4" deep). Allow the plaster to dry and harden (at least twenty-four hours) before beginning the painting section of the activity.

ACTIVITY

SESSION ONE

Introduce the Fresco Painting activity. Tell your students that they will each create a fresco painting on a plaster surface.

Example of Perspective in Fresco. Triclinium from House of Vetti in Pompeii © by Vicki Artimovich

Discussion
Display the *Art & Archaeology* poster and have your students look at the image captioned "Example of Perspective in Fresco" and/or have them look at slide #601F from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- What is the subject of this fresco?
- Could this be a scene from daily life or represent a special event?
- What colors were used to paint the fresco? Are they bright or muted? Are there many or a few? Is there a lot of contrast between the colors?
- Are the shapes that appear in this fresco geometric or organic? Are they realistic or abstract?
- How would you describe the texture of this fresco?
- Is it a flat, two-dimensional surface? Is it a three-dimensional sculpture?
- Is there an illusion of space or dimension? If so, how is the illusion created?
- Do any of the shapes, lines, or colors repeat? If there is repetition, what effect does it have?
- Is there a border around the fresco?
- For what purpose was this fresco made?
- Does the fresco look new or old? Why?

Have students discuss a variety of ideas that they might like to use as a subject for a painting. Ideas might include people doing activities, animals, fish, a still life, or a landscape. Distribute newsprint paper and ask your students to draw a cartoon, or sketch, of their idea. Encourage them to draw large, simple shapes. Allow students the remaining class period to complete their cartoons.

SESSION TWO
Distribute one plaster plate to each student. Demonstrate how to place a cartoon (sketch), right side up, on top of the plaster plate and trace over the lines using a pencil. Have students apply enough drawing pressure to leave a slight impression in the plaster. Have them move the paper and paint in the fresco. Instruct students to paint large shapes first, and detail and patterns next. Distribute the materials and allow the remaining class period for students to transfer their cartoons to the plaster and paint their frescoes. After their paintings are dry, students may wish to etch additional patterns or details in their plaster plates with a pointed tool. This etching will leave white lines. To prepare the frescoes for hanging, have students make one hole 1/2" from the top edge of their plaster form by using a compass point. Demonstrate how to string leather or a strong string through the hole to make a hanger.

ACHIEVEMENT STANDARDS

K-4 (a) Know that the visual arts have both a history and specific relationship to various cultures

5-8 (a) Know and compare the artworks in various eras and cultures

ACTIVITY ASSESSMENT

- Students are able to draw inspiration for subject matter from daily life.
- Students are able to use a cartoon to transfer their drawing to a plaster surface.
- When given plaster forms, students are able to create a fresco painting.

EXTENSIONS/CONNECTIONS

- This lesson can be used when studying ancient Greece (Knossos, Crete) and again for Renaissance Art, emphasizing Michelangelo, Raphael, and Renaissance themes.

Activity

Paper Mosaic Designs

CONTENT STANDARD: 1
Understanding and applying media, techniques, and processes

GRADES: 4–8

OBJECTIVES

Students will learn:

- to use a limited palette of colors
- to create a paper mosaic

SETTING THE STAGE

To prepare your students for the Paper Mosaic activity, introduce the background information on mosaics (page 76) and the vocabulary that appears in the margins.

MATERIALS

- *Art & Archaeology* poster
- slide #550OA from your *Art & Archaeology* slide set (optional)*
- white or black tag board (8-1/2" x 11" per student)
- a variety of colors of construction paper
- egg carton or small containers
- glue sticks
- scissors
- pencils

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

GETTING READY

To prepare the paper mosaic "tiles," cut colored construction paper into 1/2" squares. Organize the squares of paper by color into egg cartons or small containers.

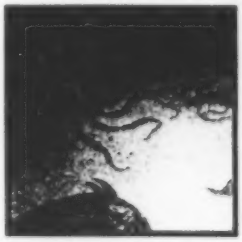
ACTIVITY

Introduce the Paper Mosaic activity. Tell your students that they will each create a paper mosaic.

Discussion

Display the *Art & Archaeology* poster and have your students look at the image captioned "Mosaic Floor with Octopi" and/or have them look at slide #550O from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- What is the subject of this mosaic? Why do you think the artist chose to create a mosaic about this subject?
- What colors do you see? Are the colors bright or muted?
- Do the shapes in the mosaic have straight or curved edges?
- Are the lines in the design thick, thin, jagged, curved?
- What materials were used to make this mosaic?
- How is this mosaic like a painting? How is it different?
- Is there repetition in the design of this mosaic? Where?



Mosaic Floor with Octopi, Herculaneum, Italy © by Vicki Artimovich.

Have your students discuss and make a list of a variety of subjects that would be suitable for a mosaic. Encourage them to think of subjects that can be expressed

with large simple shapes. Demonstrate how to draw a 1-1/2" to 2" border around the outside edge of an 8-1/2" x 11" sheet of paper. Select a subject and draw it with a large simple shape that touches the inside edges of the border. Instruct students to select a limited palette of three to four colors of paper squares to use in their mosaics. Demonstrate how to put a small amount of glue on the back of a square and place it carefully on the paper. Place a second square of paper near, but not touching, the first piece. Remind students not to overlap the pieces. Use as many square papers as possible, cutting the edges of squares only when it is necessary to create curves needed in the design. Fill in the border with a pattern. Distribute the materials and allow the remaining class period for drawing and completing the paper mosaics.

ACHIEVEMENT STANDARDS
K-4 (b) Describe how different materials, techniques and processes cause different responses

5-8 (b) Intentionally take advantage of the qualities and characteristics of art media, techniques, and processes to enhance communication of their experiences and ideas

ACTIVITY ASSESSMENT

- When given the necessary materials, students are able to create a paper mosaic using a limited palette of colors.

EXTENSIONS/CONNECTIONS

- Have students create mosaics using actual tile pieces. A terrific reference for creating tiles and mosaics is *Handmade Tiles* by Frank Giorgini.
- Have students use 1/4" grid paper and draw mosaic designs and patterns in pencil. Then have them color in squares with markers noting how colors next to each other mix and match and appear different from a distance.

AESTHETIC INQUIRY FOR CHAPTER SIX

Aesthetic inquiry involves students in the perception, understanding, and appreciation of works of art. When we involve our students in aesthetic inquiry, we challenge them to consider important questions, sometimes referred to as the "big questions" that concern art in general. These questions may have many answers, depending on your point of view. It is important to raise these issues with your students, because such issues have the potential to deepen their understanding and appreciation of art. The concepts in the following questions are suitable for students of all ages. You may choose to rephrase some of these questions depending on the age level of your students.

1. After archaeologists discover artifacts, attempts are often made to restore them to their original condition. Do you think a restored artifact is more valuable than the same artifact left in its damaged condition? Does the condition of a work contribute to its aesthetic, historical, or economic value? If so, why? If not, why not?
2. Does the age of a work contribute to its value? Are old works more valuable than new ones? Why or why not?

ASSESMENT FOR CHAPTER SIX

- Students are able to define and discuss the vocabulary presented in the chapter.
- Students are able to discuss Greek and Roman influences on Pompeii.
- Students are able to discuss the different types of artworks made in Pompeii.
- Students are able to discuss the effects of the eruption of Mount Vesuvius on the city of Pompeii.

Chapter 7
Celtic Legacies

CHAPTER OBJECTIVES
Students will learn:

- that Celtic civilization spanned over a wide geographical region and an extensive period of history
- that Celtic artists were known for their exquisite metalwork, jewelry, stone carvings, and illuminated manuscripts
- that interlace, zoomorphic designs, palmettes, heads, and S-shaped motifs are common characteristics of Celtic design patterns

WHO WERE THE CELTS?

The Celts were a group of people who lived in various areas of Europe from the eighth century B.C. to the middle of the first century A.D. The Greeks knew them as "Keltoi" while the Romans called them "Gauls." The Celts left little literary evidence to document their origins. What is known about the Celts has been based on inferential evidence of archaeologists by interpretation of artifacts found at **oppida**—which are sites of Celtic hill-forts, or settlements on hilltops—and from outside written sources contemporary with Celtic society.

The Celts were a recognizable group of people by their appearance, and were characterized by their shared language, culture, laws, art, and social institutions. Though they held much in common, they were never organized under a common ruler. Rather, they existed as separate enclaves varying in size. Many farmed while others were more warlike and acted as mercenaries in the armies of others. By the sixth century B.C., the Celts inhabited areas throughout central Europe, France, Belgium, Spain, and the British Isles. Celts from northeastern France were known as *Belgae*, and as reported by Julius Caesar, had settlements in the southern British Isles before his own time. The country of Belgium retains their name. Though defeated by the Romans and eventually assimilated into other Europen peoples, the Celtic people left evidence of their existence to this very day, in their artistic style, their rich oral and religious traditions, and their skills in metalwork. Archaeologists divide Celtic times into two periods: **The Hallstatt** (750–450 B.C) and **La Téne** (450 B.C.–51 A.D.). The first period is named after the region in Austria where archaeological evidence of the earliest Celtic people was found. The second period is named after a lakeside area in Switzerland (now underwater) where the Celts settled and traded with other groups.

Artifactoid
A number of Celts from the Po Valley in northern Italy, known by the name of Galatae, made their way to central Turkey around 290 B.C. These people became known as the Galatians and survived as a recognizable cultural group into the fourth century A.D. Their language remained distinctly Celtic in origin. It was to these people that Saint Paul wrote a letter in the New Testament of the Christian Bible.

Archaeologists have excavated a burial site found at Vix in France, dating from the sixth century B.C. It is of a Celtic queen or princess who was buried with a four-wheeled wagon with bronze fittings, fine jewelry, and drinking cups, as well as a five-foot bronze krater vase from Greece. These artifacts tell us that the Celts honored women and men equally (at least in the aristocracy) and that they traded

VOCABULARY

oppida—
(s. oppidum) A Celtic settlement on a hill.

The Hallstatt—
(750–450 B.C) The earlier of two periods into which Celtic times have been divided by archaeologists.

La Téne—
(450 B.C.–51 A.D.) The later of two periods in which Celtic times have been divided by archaeologists.

VOCABULARY

compass—
From the fifth century B.C. onward, the compass was used as a tool to construct outlines of complex decorations and to create engravings onto metal or bone.

palmette—
One of the essential motifs of Celtic art; it often occurs between two S-shaped motifs, and is considered a symbol of divinity.

Tree of Life—
Theme adopted by the Celts from northern Italy; generally represented as the palmette design, flanked by guardian animals; sometimes represented as mistletoe, a venerated item that was thought to be associated with a pagan god.

interlace—
Braided or intertwined bands. Recurring motif in Celtic art inspired by the foliage patterns of the Greeks.

zoomorphic—
Having the form of an animal.

with the Greeks. In fact, artifacts from other sites and oppida suggest that the Greeks and Romans traded often with the Celts, exchanging both goods and ideas. The Greeks supplied the Celts with wine and drinking vessels, while the Celts probably traded salt, salted foods, slaves, and metals (copper and tin) in return. The Romans learned and improved on road-building from the Celts, while the Celts learned and improved the construction of two-wheeled chariots from the Romans.

CHARACTERISTICS OF CELTIC ART

How do archaeologists decide if an artifact once belonged to persons of Celtic origin? Celtic artwork has a particular style, and many Celtic artifacts were made and decorated with characteristically Celtic materials and designs. For example, during the late Hallstadt period, Celtic artists became masters at using the **compass**. With the compass, they were able to transform natural forms, like those of plants and flowers, into well-defined geometric shapes with curvilinear contours. Compass work is found on the engravings of ancient tools, weapons, and stone monuments.

From their religious beliefs based in the natural world, the Celts often depicted a plant-like emblem, called a **palmette**, in their art. The **Tree of Life** was part of the Celtic creation myth. No Christian significance was attached to it until the Middle Ages, when Celts began to convert to Christianity. The plant-shaped palmette was often placed between two S-shaped figures, which were believed to resemble the guardian-beasts that were thought to reside on either side of the Tree of Life. The S-shapes and the palmette motifs have also been found depicted separately. Other frequently used designs in Celtic art are **interlace**—which looks like woven ribbon, or shapes of leaves and vines intertwining—and **zoomorphic** designs—which combine plant and animal forms into a common form. During the La Téne period, development of Celtic designs and their superb art styles became increasing refined, especially in the areas of decorative metalwork and jewelrymaking.

PRE-CHRISTIAN TRADITIONS

The Celtic religion was based on beliefs about the natural rhythms of the earth—the seasons and the spiritual forces that ruled them. Under this religious system, the priests, or druids as they were called, offered items of value and personal significance to the gods in exchange for wealth and good fortune. These items were often tossed into bogs, rivers, and lakes—sacrificial areas that became quite important and sacred to the Celtic people. This practice may have been the source of the modern-day tradition of tossing a coin into a pond or wishing well for good luck. Archaeologists have uncovered many hoards, or collections of items, from the waters near ancient Celtic regions—including gold coins, jewelry, wooden carvings, pottery, and people's personal possessions. From the discovery and analyses of these items, archaeologists have learned a great deal about the Celtic people.

The Celts followed many practices that today might be viewed as barbaric. One of these practices was based on their belief that the human head was the center of the soul and spirit of a person. It was believed that the head contained great power, even after a person died. When a great warrior returned from battle, he would bring home the heads of his enemies, embalm them in cedar oil, and place them above his front gate or in specially prepared niches in the walls of his home. The Celts believed there were powers inherent in the human head that would bring their families and communities success and protection from evil. The head of a great warrior was thought to protect the house where it was kept and honor the inhabitants of that house with the power and skill possessed by the warrior in his lifetime. Also, the head of an important person was thought to live on after their death to offer prophesies and protection to those who kept and honored it. Some

heads of important people were decorated with gold and used as drinking cups.

Depictions of human heads appear in many types of Celtic artwork, including jewelry, carvings, metalwork, and wood engravings. Celtic metalworkers cast small head-shaped images in silver, bronze, and gold to decorate their jewelry and weapons. Archaeologists have found several Celtic sites which contain stone walls and pillars that were carved to look like human heads. Some of these engravings are of a single large head, while others appear as many heads in rows and columns. Celtic artists often depicted human head forms on the bodies and necks of animals. Despite the belief system that originally made the head form so important to the Celts, images of the human head continued to appear in their artworks even after the Celts converted to Christianity.

Artifactoid

Some stone heads were adorned with a carving of mistletoe as the mistletoe was special to the Celts. It was believed to symbolize the Tree of Life and was usually crowned on a person of great honor and importance. The mistletoe was placed above a doorway to bless the people with a long life.

CELTIC JEWELRY AND METALWORK

The Celts were masters in working with metal. They were known for their fine swords and other weaponry, the chariots they built, and the intricate jewelry they made in silver, bronze, and gold. Sometimes they enameled jewelry with bright colors and embedded the metal with glass chips or semi-precious stones. Coral was a favorite stone and considered to be magical.

Artifactoid

Oddly, females were buried with their torques around their necks or in their graves, while males were not. We know that men also wore them, however, because we find them depicted on men in carvings, paintings, and other Celtic artwork.

A common piece of jewelry created and worn by the Celts was a metal neck ring called a **torque**. Torques were so popular and prevalent in Celtic society that archaeologists are sometimes apt to identify sites as being Celtic if torques are found there.

Another popular Celtic jewelry piece, called a **fibula**, worked much like a safety pin. Fibulae were developed long before the Celts began to create them, but the Celts decorated and embellished their fibulae with fine jewels and gold, turning them into wondrous works of art. One type of fibula, called a **brooch**, consisted of a long pin fastened with a decorative ring. Brooches were used to attach the ends of a cloak around one's neck. According to Celtic laws of the time, a person's rank and position in a clan was reflected by the size of that person's brooch and the material from which the brooch was made. Rich and important people wore large gold and silver brooches studded with precious jewels. Other people wore plain metal fibulae. The Tara Fibula, made in the early eighth century A.D., was a cast gilt-silver brooch decorated with animal interlace, filligree, and engraving. It was also studded with enameled discs. This fibula is one of the finest examples of Celtic jewelry design.

ILLUMINATED MANUSCRIPTS

As Christian missionaries began to move into the northern areas of England, Ireland, and Scotland during the sixth and seventh centuries A.D., they brought with them Bibles and other handwritten documents, called **manuscripts**. These were used to conduct religious services and to persuade people to convert to Christianity. Some of the converted inhabitants took special vows to become **monks**. Many of these monks worked in a **scriptoria** within a monastery, where they were allowed to use

VOCABULARY

torque—
A neck-ring made of rigid metal (bronze, gold, or silver) regarded as the typical costume ornament of the Celts.

fibula—
(pl. fibulae) A pin or brooch; made by the Celts.

brooch—
A decorative pin, such as that made by the Celts, often designating rank (largest and most ornate belonging to the wealthiest persons).

manuscript—
A handwritten (or typewritten) document.

monk—
A man who retires from the material world and lives in solitary self-denial for religious reasons. The early Christian monks were responsible for the reproduction of biblical literature and the development of illumination as an art form.

scriptoria—
(s. scriptorium) Early writing workshops in monasteries, where monks produced copies of the Bible and other Christian books in mass quantities.

VOCABULARY

illumination—
The process by which early Christian monks decorated vellum pages with elaborate designs and colors.

vellum—
A thick, specially prepared calfskin used for writing upon and binding books.

parchment—
Writing material made from cured sheep or goat skin.

codex—
(pl. codices) Book made of several folded pages sewn together along the fold.

carpet page—
The page preceding each Gospel in an illuminated manuscript of the Bible.

frontspiece—
A cover page or introductory page to a book.

barrows—
Heap of earth and rocks marking an ancient grave.

and adapt their artistic skills to reproduce more of the religious manuscripts. Prior to becoming monks, some Celts had used their artistic skills to decorate secular items such as weaponry and jewelry. After they took their monastic vows, they contined to use the same skills and same traditional Celtic designs, but they used them to illuminate the pages of the Gospel books from the Christian Bible. Using their particular Celtic style of art, the monks began to draw S-shaped motifs, zoomorphic designs, and interlace in their decorations of Christian manuscripts. The Christian monks of the seventh and eighth centuries A.D. drew and painted human heads within their **illuminations** of manuscripts. At first, these designs were primarily placed along the borders of the pages, but as time went on, the intricacies and use of the designs increased. The monks literally illuminated, or *lit up*, the manuscripts by adding marvelous color and design within the larger letters and around the written words of the pages.

Artifactoid

The carpet pages in The Book of Kells were so extraordinarily done, that some people thought they were actually the work of angels and not done by the monks. The book used the skins of 185 calves. No two illuminated letters contained in it are identical.

Illuminated pages were copied onto **vellum** or **parchment** paper and then sewn together to make a **codex**. Sometimes the pages were dyed purple and the words were written in gold or silver. Main sections of books were often begun with a **carpet page**, a page entirely covered with elaborate designs and pictures. Carpet pages, which acted as a protective cover for their particular section, looked similar to the carpets found in the Near East. This similarity likely resulted from the artistic influences of eastern monks from Byzantium, who were trained in Greece and the Near East before being sent to help Celtic monks appropriately depict the Christian saints and reproduce the Gospel Books.

The Lindisfarne Gospels, created around 700 A.D., contain some of the finest examples of zoomorphic designs and designs executed with a compass and ruler. It is amazing to realize that some of the extremely thin lines within these designs were created without the help of a magnifying glass, a later invention. The Book of Kells, often called the "most beautiful book in the world" was created by Irish monks in the late 800s A.D to be displayed on a church altar. It took years for the monks to painstakingly illuminate its six-hundred seventy-nine vellum pages with handmade inks. The Book of Kells was originally kept at the Irish monastery of Kells, but it was stolen from that site in 1006 A.D. A few months later it was returned. In 1660 A.D, it was given to Trinity College in Dublin, Ireland where it has been on display ever since.

After movable type and the printing press were developed in 1455 A.D. by a German man named Johannes Gutenberg, there was no longer a need to spend hours and days reproducing books by hand. As a result, illuminated manuscripts became rare and expensive. Books were considered materials to be read rather than looked at for visual beauty. As a result, the use of illumination declined. It was reserved for the **frontspieces** of books and for limited decorations.

SUTTON HOO

The archaeological site at Sutton Hoo, north of London in Suffolk, was found by a woman named Edith May Pretty who noticed eleven strange **barrows** on her land. Curious about the barrows, Mrs. Pretty invited a local museum curator, Mr. Basil Brown, to come and take a look. In 1939, Mr. Brown dug a survey trench on Pretty's land in which he found human bones, traces of wood, a glass bowl, and pottery. The next summer, he returned and excavated the largest trench to discover a wooden ship measuring eighty-one feet in length. Three weeks later, a royal grave was

uncovered nearby. It contained a helmet, silver plate items, a gold-hilted sword encrusted with 4,000 precious stones, and many examples of jewelry with Celtic zoomorphic designs. The discovery was concluded to be the burial site of an East **Anglican** King, probably King Raedwald, who died in the mid 600s A.D. He was buried with all of the items befitting a king of his time, including his ship. Further excavations on Pretty's land have uncovered additional gravesites, leading archaeologists to believe that the area is an ancient cemetery. The Sutton Hoo site is still an active archaeological area, so more artifacts are being uncovered at the present time. Many of the artifacts at the site were made with Celtic style designs and artwork. From studying the site and its artifacts, archaeologists have learned that the Anglican king and other people buried at Sutton Hoo were significantly influenced by the Celts in both their art and metalwork.

Artifactoid

At the time of the initial discovery, Mrs. Pretty was declared the owner of the treasure and proceeded to hide the artifacts under her bed. However, she soon changed her mind and gave them to England. The many artifacts found at Sutton Hoo are currently on exhibit at the Ipswich Museum and the British Museum.

Artifactoid

A contributing factor to the Norman victory was the new invention of stirrups for the riders. With stirrups, a rider has more control and can stay upon the horse better while in battle.

THE BAYEUX TAPESTRY

The final years of the first millenium A.D. brought new kingdoms and conquerors into the northwest area of Europe. The Celtic people were taken over by the Anglo Saxons and the Vikings, or Norsemen. The Norsemen occupied an area of northern France around 911 A.D., and came to be called the Normans (North-men). They adopted the language and customs of the French and soon became one of the strongest and best organized provinces of France. The Normans were fierce warriors. They were led by **Duke William**, one of the strongest and ablest rulers in Europe at the time. William was related to the last king in a line of Anglo-Saxon nobles in England, and had been selected by that king as succesor to the English throne. However, following the king's death, an election was held in which an Anglo-Saxon nobleman named Harold was elected to the throne instead. Duke William, upon hearing of the election, put forth his claim to the throne, gathered up his army, and invaded England in 1066 A.D. His mighty army met and defeated King Harold's army near a coastal area called Hastings. Harold was killed in the battle, and William—who afterwards was called The Conqueror—marched on to London to be crowned as the new king.

The **Bayeux Tapestry** is a wool-embroidered, linen **frieze** that was made by Anglo Saxon women in France around 1073 to 1083 A.D. The tapestry, a **narrative** work of art, measures twenty inches in height and two-hundred thirty feet in length. The story represented by the pictures that appear on the tapestry is that of William the Conqueror's invasion of England, told from the perspective of the conquering Normans. The top and bottom of the tapestry are bordered by narrow strips. The top strip is purely decorative, while the bottom one is embroidered with horses and soldiers. The storyline appears in the middle section. The embroidered figures are reflective of those in the illuminated manuscripts made during this same historical period. Bodies and objects appear to be twisting and somersaulting within the space amidst interlace and zoomorphic designs. The area in France where the tapestry was made was once a Celtic land called Gaul, and although the Celts may have left the land three to four centuries before the tapestry was created, their influence on its design is apparent.

VOCABULARY

Anglican—
Of or relating to England.

Duke William—
Led the Normans in the Battle of Hastings to claim the English throne.

Bayeux Tapestry—
A linen frieze made by Anglo-Saxon women around 1073 to 1083 A.D.; It is a visual narrative of the Battle of Hastings.

frieze—
A richly ornamented band.

Activity

Illuminated Letter

CONTENT STANDARD: 5
Reflecting upon and assessing the characteristics and merits of their work and the work of others

GRADES: 4–8

OBJECTIVES

Students will learn:

- to create a decorated letter
- to incorporate interlacing designs, zoomorphic designs, and pattern into their artworks
- to create and use a limited palette of four contrasting colors

SETTING THE STAGE

To prepare your students for the Illuminated Letter activity, introduce them to the background information on illuminations (85–86) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- *Art & Archaeology* poster
- Celtic Design Samples reference sheet*
- sketch paper
- pencils and erasers
- calligraphy paper (5-1/2" x 4-1/4" per student)
- pictures of flowers and animals for reference (optional)
- various visual references showing Celtic zoomorphic designs and interlace (optional)**

* See Reproducible Masters section beginning on page 101 of this resource.
**See Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

- students' completed drawings from Session One
- colored markers
- metallic markers or paint
- black felt-tipped marker (fine point)
- crayons or decorative markers such as Crayola's Overwriters™ and Underwriters™ (optional)
- glitter (optional)
- metallic leaf (optional)

GETTING READY

Make a copy of the Celtic Design Samples reference sheet for each student.

ACTIVITY

SESSION ONE

Introduce the Illuminated Letter activity. Tell your students that they will each design and illuminate the first letter of their name.

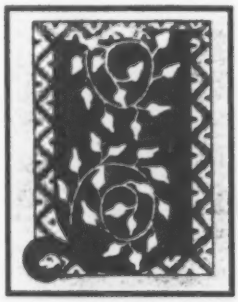
Discussion
Display the *Art & Archaeology* poster and have your students look at the image captioned "Chi Rho Page" (from the Books of Kells). Tell your students that the Chi Rho page is an illumination of the first two letters of Christ's name in Greek. Use the following sample questions to lead a discussion:

- How would you describe the shapes used on this page? Are they geometric? zoomorphic? interlacing? Are they complex or simple?
- Can you find examples of repetition and pattern?
- Are there elements of the manuscript page that look more dominant than others?
- What colors were used? Are they bright or muted?
- What is the expressive quality of the manuscript page? Is it elegant? complex? powerful? delicate?

Chi Ro Page from Matthew's Gospel 1:18, The Book of Kells © by Trinity College Library, Dublin, Ireland.

Display the *Art & Archaeology* poster and have your students look at the image captioned "Illuminated Letter." Tell your students that the letter is a a modern illustration of illumination in the Celtic style. Use the following sample questions to lead a discussion:

- How would you describe this illuminated letter?
- What colors were used?
- How is the letter decorated?
- What types of shapes do you notice? Are there a few or many? Do the shapes repeat?
- How would you describe the border surrounding the letter? Is it simple or complex?
- What is the expressive quality of the letter? Is it strong? delicate? elegant? ornate?



Letter Illuminated in the Celtic Style © 1997 by CRIZMAC, Illustration by David Aviles.

Designing the Letter
Distribute a copy of the Celtic Design Samples reference sheet to each student. Discuss the different designs. Have students practice making the designs and combining them to produce a variety of results. Using pencil, demonstrate how to draw a large letter to fill the space of a sheet of calligraphy paper, leaving enough room for a 1" to 2" border. Graduate the thickness and draw a "bubble letter" by encircling the lines of the original letter. Add combinations of zoomorphic shapes and patterns of flowers and/or leaves to the inside and outside of the letter. Demonstrate some examples of interlacing designs. Draw a border around the page and demonstrate how to create a decorative repeating pattern within the border. Check for your students' understanding of the concepts. Distribute the materials and allow the remaining class period for drawing. Have students do their drawings in pencil.

SESSION TWO
Introduce the concept of a limited palette. Have students choose a limited palette of four colors to decorate their letters. Encourage them to use contrasting colors such as purples/yellows, greens/reds, or oranges/blues to color their letters. Demonstrate how to color with markers, creating light and dark values of the same color by applying varying amounts of pressure. Encourage students to use an even stroke to create a rich surface of color. Outline major lines in the design using a black felt-tipped marker with a fine point. Distribute the materials and allow the remaining class period for coloring. Make metallic paints or markers available to students to highlight limited areas of their designs.

ACHIEVEMENT STANDARDS
K–4 (b) Describe how people's experiences influence the development of specific artworks

ACTIVITY ASSESSMENT

- When shown a variety of letters, students are able to identify an illuminated letter.
- Students are able to create a decorated letter incorporating repetition and pattern.
- Students are able to identify and use a limited palette of colors.

EXTENSIONS/CONNECTIONS

- Have students compare/contrast illuminated letters with other examples of ancient writing, such as hieroglyphics or Chinese calligraphy.
- Have students embellish their letters with glitter or metallic leaf.

Activity

Narrative Panel

CONTENT STANDARD: 6
Making connections between the visual arts and other disciplines

GRADES: 4–8
OBJECTIVES
Students will learn:

- how to express an event in a sequential visual narrative
- how to design a narrative that is visually unified by shape, line, and color

SETTING THE STAGE

To prepare your students for the Narrative Panel activity, introduce them to the background information on the Bayeux Tapestry (page 87) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- slide #526R from your *Art & Archaeology* slide set (optional)*
- examples of narrative stories
- white drawing paper (8-1/2" x 11" per student)
- pencils
- washed cotton or bleached muslin fabric (8-1/2" x ???)
- black felt-tipped markers (fine point)

* For information about how to obtain the supplementary *Art & Archaeology* slide set, see Related Resources Available through CRIZMAC beginning on page 128 of this resource.

SESSION TWO

- students' completed drawings from Session One
- markers or fabric pens in a variety of colors
- yarns or embroidery flosses (optional)
- needles (optional)
- scissors (optional)
- rulers (optional)

ACTIVITY

SESSION ONE

Introduce the Narrative Panel activity. Tell your students they will create a visual narrative of an event in their lives.

Discussion (optional)

Have your students look at slide #526R from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- What activities are taking place in the image?
- Who are the people involved in the activities?
- How are the individual activities related to each other?
- What types of shapes were used to depict the people and objects?
- How are lines used in the tapestry?
- Were many colors used? Are they bright or subdued?
- What was the purpose of the tapestry?

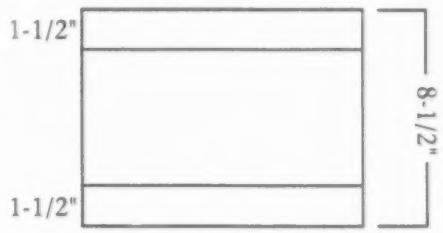
After students have discussed the Bayeux Tapestry, show them other forms of visual narratives such as illustrated books, comic books, or photo essays in magazines. Discuss how the images are placed in a sequence that visually tells a story. Make a list of ideas suitable for a narrative, such as:

- a sports event
- a school day
- a holiday season
- the weekend
- a day on the farm
- baking a cake

Check for your students' understanding of the concepts. Ask your students to choose an idea for their own narratives.

Creating the Narrative

Demonstrate how to measure and draw the following format on a sheet of paper:



Using pencil, draw a main narrative in the middle section of the paper, telling the story or event from left to right. Keep drawings simple and large. Discuss how to use similar shapes, lines, and colors to unify the sequence of events as a whole. Use design elements from the story to decorate the top and bottom borders of the page. Outline the pencil drawings using a black felt-tipped marker with a fine point. Check for your students' understanding of the concepts. Distribute the materials and allow the remaining class period for drawing narratives.

Option: Organize students into small groups to work together to narrate an event or story, with individual students designing specific scenes.

SESSION TWO

Tell students that they will transfer their drawings from Session One to a piece of cloth. Demonstrate how to place the paper drawing under muslin and trace it with pencil. Distribute the muslin, pencils, markers, and/or fabric pens and allow students the remaining class period to draw and color their narratives on the cloth. If you choose to have students embroider their narratives, introduce and demonstrate several simple stitchery techniques.*

* See Related Resources Available through CRIZMAC beginning on page 128 of this resource for a great embroidery book.

ACTIVITY ASSESSMENT

- When given a variety of images to view, students are able to identify a visual narrative.
- Students are able to express an event in a sequential narrative, both visually and verbally.
- Students are able to create a design unified by shape, line, and color.

EXTENSIONS/CONNECTIONS

- Divide your class in two and proceed with same project, but making two tapestries. Have them exchange their finished tapestries and try to write the story that goes with the tapestry they receive from the other half of the class.
- Have students fold paper strips (18" x 4") into four equal sections and draw a personal narrative strip in four scenes. Then have them paint and draw background to unify the story.

ACHIEVEMENT STANDARDS

K-4 (a) Understand and use similarities and differences between characteristics of the visual arts and other art disciplines

5-8 (a) Compare the characteristics of works in two or more art forms that share similar subject matter, historical periods, or cultural context

Activity

Carving Head Stones

CONTENT STANDARD: 2
Using knowledge of structures and functions

GRADES: 6–8
OBJECTIVES
Students will learn:

- to identify a three-dimensional form
- to express a two-dimensional drawing of a head in three-dimensional form
- to use repetitive designs for decoration

SETTING THE STAGE

To prepare your students for the Carving Head Stones activity, introduce them to the background information on human head forms as a design element in Celtic art (page 85) and the vocabulary that appears in the margins.

MATERIALS

SESSION ONE

- slide #610S from your *Art & Archaeology* slide set (optional)*
- newsprint paper (8-1/2" x 11" per student)
- pencils

SESSION TWO

- students' sketches
- your choice of carving material. Some good ideas for material are:
  - plaster
  - air-dry clay
  - Crea-Stone™
  - bar soap
  - Sculpey™
  - Sculptamold™
- carving tools suited to your choice of carving material

ACTIVITY

Introduce the Carving Head Stones activity. Tell your students they will create a three-dimensional head out of the materials you have selected for them to use.

Discussion (optional)
Have your students look at slide #610S from the [optional] *Art & Archaeology* slide set. Use the following sample questions to lead a discussion:

- How would you describe the head?
- Does it look realistic or abstract? What qualities make it look realistic? What qualities make it look abstract?
- Is the head decorated with any designs? How would you describe them?
- Does the head represent a specific person or people in general?
- Does the head express an emotion or feeling? Is it powerful? delicate? humorous? serious?

Drawing
Review the concept of repetition and remind your students that Celtic head stones were often decorated with patterns. Distribute the newsprint paper and pencils. Have students make sketches of the head forms they would like to carve. Have them do sketches of their head from three different views: the front, the side, and the back. Tell students to add a repetitive design of their choice to

their head sketches. Allow the remaining class period for sketching. Check your students' drawings for their understanding of the concepts.

SESSION TWO
Distribute your students' sketches from Session One. Select the tools and materials you want your students to use to carve their three-dimensional head forms.

Demonstration
Demonstrate how to use the tools and materials you want your students to use to carve their three-dimensional head forms. Discuss the importance of using extreme care when working with any type of carving tool. Remind students that they should refer to their sketches as they carve. Encourage them to use all three perspectives from their sketches (front, side, and back) to help them accurately portray the different dimensions of their sculptures. Distribute the tools and materials for carving and allow the remaining class period for carving.

Note: Carving may take several class periods, depending on the tools and materials you select.

ACTIVITY ASSESSMENT

- Students are able to identify a three-dimensional form.
- Students are able to express a two-dimensional drawing in three-dimensional form.
- Students are able to decorate their work using repetitive designs.

EXTENSIONS/CONNECTIONS

- Have students contrast and compare Celtic heads with three-dimensional heads of other civilizations.
- Have students embellish their carved head forms with paint.

ACHIEVEMENT STANDARDS
K-4 (b) Describe how different expressive features and organizational principles cause different responses

5-8 (b) Employ organizational structures and analyze what makes them effective or not effective in the communication of ideas

AESTHETIC INQUIRY FOR CHAPTER SEVEN
Aesthetic inquiry involves students in the perception, understanding, and appreciation of works of art. When we involve our students in aesthetic inquiry, we challenge them to consider important questions, sometimes referred to as the "big questions" that concern art in general. These questions may have many answers, depending on your point of view. It is important to raise these issues with your students, because such issues have the potential to deepen their understanding and appreciation of art. The concepts in the following questions are suitable for students of all ages. You may choose to rephrase some of these questions depending on the age level of your students.

1. The Celts are known for making beautiful jewelry. Their pieces are lavishly decorated with intricate designs and colors. Some people consider jewelry-making to be a craft. Do you think there is a difference between craft and art? If so, what are the qualities that characterize a craft? a work of art? If not, what qualities make art and craft the same?
2. Do you consider an illuminated letter to be art like a painting in a museum is considered art? Why or why not? What are the qualities that distinguish art from non-art?

BEST COPY AVAILABLE

ASSESMENT FOR CHAPTER SEVEN

- Students are able to define and discuss the vocabulary presented in the chapter.
- Students are able to discuss the extensive geographical regions and historical period of Celtic civilization.
- Students are able to demonstrate their knowledge of Celtic works, including metalwork, jewelry, stone carving, and manuscripts.
- Students are able to identify interlace, zoomorphic designs, palmettes, heads, and S-shaped motifs as common characteristics of Celtic design patterns.

Chapter 8
Creating an Exhibit

CONTENT STANDARD: 6
Making connections between the visual arts and other disciplines

GRADES: 4–8
OBJECTIVES
Students will learn:

- how some artifacts found at archaeological sites are prepared for exhibitions
- that exhibition space is designed space
- that objects selected for exhibition are labeled
- how to label their own work for exhibition
- how to set up an exhibition of their own work

SETTING THE STAGE

Introduce students to the background information and the vocabulary that appears in the margins.

MATERIALS

- student work selected for exhibition
- 3" x 5" index cards or Reproducible Exhibit Labels form*
- felt-tipped black marker (fine point)
- tables, stands, and walls for display
- store-bought invitations or materials to make invitations

* See Reproducible Masters section beginning on page 101 of this resource.

BACKGROUND INFORMATION

After an archaeologist uncovers an artifact in the field, the artifact is cataloged, cleaned, preserved, and photographed or illustrated at the museum or storage facility. Most often, the next step is to put the artifact into storage with other artifacts from the same archaeological site in order to comprise a **study collection**. No artifact—no matter how small (bead) or large (ship of Sutton Hoo)—is thrown away. If there are many hundreds of a given type of object, bricks for example, these are left on the site for other archaeologists to study.

Only a small percentage of artifacts found in the field are put on display in a museum. Prior to a museum exhibition, the **curator** often decides the purpose of the exhibition, which artifacts to display, and how to exhibit the collection. In large museums with more staff, an exhibit designer, rather than the curator, may organize and produce the exhibit. Once the artifacts have been selected, they are sent to the **conservation lab** where they are cleaned and prepared for preservation. Most museums use exhibit labels to identify each piece. A label usually displays the most recent information and interpretations about the object, including the object's **registration number**, and sometimes the donor's name.

VOCABULARY

study collection—
Collection of artifacts from a given archaeological site used for researching a culture or site.

curator—
One who cares for and prepares artifacts for exhibit.

conservation lab—
Place where artifacts are cleaned and preserved.

registration number—
Identifying number given to an object when it has been recorded at a museum.

Artifactoid
The Smithsonian Institute in Washington, D.C. has only about 1% of their collection on display; the rest is in storage.

VOCABULARY

hygrothermograph—
An instrument for measuring temperature and humidity.

computer touch terminal—
Reference tool used as an interactive part of the exhibit.

photomural—
A museum exhibit technique of using a large photograph as wall decoration, setting the context or place where an artifact was found. Sometimes used for a whole exhibit, but more often to set the context of an artifact.

When arranging the display of artifacts, special care is taken to insure that the artifacts are not damaged by heat, moisture, light or any other environmental variables. **Hygrothermographs** and soft lighting are important tools for dealing with these concerns. Many museums now have automatic lighting that turns off periodically.

Along with the display of artifacts, there may be lectures, slide shows, **computer touch terminals**, and other audiovisual presentations associated with the exhibit. Sometimes a **photomural** is placed on a wall in order to set the context of the artifact.

GETTING READY

Have students choose artworks they made from their *Art & Archaeology* activities that they would like to exhibit. If students are not creating their own label forms, make enough copies of the Reproducible Exhibit Labels form to label each of the selected artworks.

ACTIVITY

Introduce the Creating an Exhibit activity. Tell your students that they are going to organize an exhibition of their work.

DISCUSSION
Use the following sample questions to lead a discussion:

- Have you ever visited a museum? If so, what type of museum? Was it large or small?
- Where is it located? What is its name?
- What was the theme of the exhibition?
- What objects were on exhibit? Were there many objects?
- How were the objects displayed? On the wall? In cases? Under glass?
- How were the objects labeled?
- Was the light in the museum bright? soft?
- Were there any additional displays such as computer touch terminals, audiovisual displays, photographs, or charts to help you better view the exhibit?
- What made the exhibition interesting to view? Was the information presented in a pleasing way? Why or why not?
- How long did you view the exhibition? Did you want to stay longer? Why or why not?

Show your students a sample museum label. Discuss the types of information often found on exhibit labels. Have each student prepare the information for their exhibit label and transfer it to 3" x 5" index cards or to one of the exhibit labels from the Exhibit Label Forms. If computers are available, students may wish to create their labels on a computer.

Have students work together to discuss how to exhibit their work. Set up a museum display area in your classroom, school hallway, or auditorium. Discuss how to arrange the display space available on the walls and tables. Set some objects on pedestals or risers to add an interesting dimension to the exhibit. Place exhibit labels near the student works to which they correspond. Create and send out invitations to parents and students in other classrooms.

EXTENSIONS/CONNECTIONS FOR CHAPTER EIGHT

- Have students research and draw a faux photomural on a background wall where their artworks are displayed.
- Visit an exhibit at a local museum. Have students study the way the exhibit is presented as well as what objects are on exhibit.
- Have students prepare a press release for your local paper announcing their exhibition.

AESTHETIC INQUIRY FOR CHAPTER EIGHT

Aesthetic inquiry involves students in the perception, understanding, and appreciation of works of art. When we involve our students in aesthetic inquiry, we challenge them to consider important questions, sometimes referred to as the "big questions" that concern art in general. These questions may have many answers, depending on your point of view. It is important to raise these issues with your students, because such issues have the potential to deepen their understanding and appreciation of art. The following questions, phrased in the appropriate language, are suitable for students of all ages. You may choose to rephrase some of these questions depending on the age level of your students.

1. Are artifacts works of art? If yes, what qualities make them art? If not, why not?
2. Do the materials from which something is made determine if the object is art? Why or why not?

ASSESSMENT FOR CHAPTER EIGHT

- Students are able to define and discuss the vocabulary presented in the chapter.
- Students are able to discuss the procedures that are used to place an artifact in a museum exhibition.
- Students are able to discuss how exhibition space is designed space.
- When asked to prepare their own artworks for exhibition, students are able to recognize the need for exhibit labels and are able to create their own labels.
- Students are able to set up an exhibition of their own work.

ACHIEVEMENT STANDARDS
K–4 (b) Identify specific works of art as belonging to particular cultures, times, and places

5–8 (b) Describe and place a variety of art objects in historical and cultural contexts

REPRODUCIBLE MASTERS

Archaeologist or Paleontologist?

Based on the following job descriptions, decide which person, (A) an archaeologist or (P) a paleontologist, you would call for help.

archaeologist: knows about the life and cultures of ancient people
studies remains and artifacts
excavates ancient cities, buildings, shelters, and their contents

paleontologist: knows about the life and environment of ancient plants and animals
studies geology, and plant and animal fossils
excavates fossils and extinct plant and animal forms

(1) I found an arrowhead as I walked along a wooded path. ___

(2) While digging into a dirt hillside, I found some rocks that had leaf prints inside of them. ___

(3) I tripped over an old stone wall that had been built in a field. ___

(4) I found a beautiful bracelet made from animal bones. ___

(5) A friend gave me a rock that he said was a dinosaur egg. ___

(6) At the bottom of a steep cliff, I found a huge pile of animal bones. ___

(7) Out in the desert, I found some rock formations that had pictures carved into them. ___

(8) I found some petrified wood. ___

(9) On an ocean beach along with a huge pile of driftwood, I found what looked like the side of a boat. It had writing painted on it. ___

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Archaeologist or Paleontologist?

Answer Discussion Sheet

(1) **A** The arrowhead is an artifact, a human-made object. Since archaeologists are knowledgeable about the cultures of ancient people, they would be better able to answer questions such as "What is it?" and "What was it used for?"

(2) **P** These rocks with imprints are called "fossils." Fossils hold informatin about pre-historic plants and animals which may be extinct today. A paleontologist would be able to determine what kind of plant left the imprint and when that plant existed.

(3) **A** Though the wall is made of natural stone, it was made by humans and not a natural occurrence. Therefore, the archaeologist would be better suited to help.

(4) **A** As with the wall in #3, this item was human-made, even though the material from which it was made (bones) is a natural material. The archaeologist would be interested in looking at the jewelry piece, because jewelry tells about how people decorate themselves, providing insight into the culture that used it.

(5) **P** The paleontologist, an expert in both plant and geological life, would be able to determine if, indeed, the object is an egg or just an oval-shaped rock.

(6) **A or P** The paleontologist would be best able to determine what kind of animal's bones were found. However, because some cultures have been known to lure herds of animals off cliffs in order to kill the animals for food, an archaeologist might be interested in taking a look, too.

(7) **A** The archaeologist would be interested in finding these "petroglyphs," or human-made pictures, because they likely relate information about the culture of the people who created them.

(8) **P** The paleontologist would be able to determine if the found material is wood or stone.

(9) **A** The archaeologist would be very interested in looking at your wood. Depending upon the style of writing and wood used to make the boat, the archaeologist may be able to determine where the boat was originally created and by whom.

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Artifact Record Sheet

Pit Number _____

Team Members _____

ILLUSTRATION OF ARTIFACTS IN SITU
(Drawing of artifacts where they were found in the pit box)

DESCRIPTION OF ARTIFACTS
(Color? Size? Material?)

_____

_____

_____

_____

_____

_____

INTERPRETATION
(How old is it? What was it used for?)

_____

_____

_____

_____

_____

Art & Archaeology
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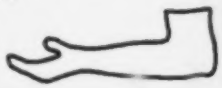
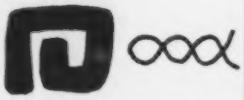
Egyptian Hieroglyphics

Ā 	H 	Ō	T
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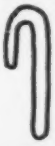
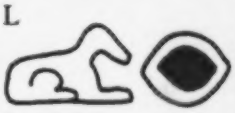
C 	K	Ph	Ū
D	L 	Q	V
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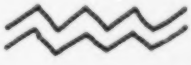
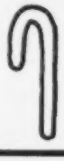
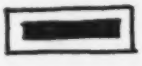
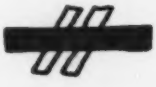
F	N 	S 	Y̆
J G	G	Sh 	Z 

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"Fowling Scene"

of Amenemhab c.1450 B.C.

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Chinese Calligraphy

Sea　　Two　　Small

Tree/Wood　　River　　Big

Table　　Chair　　Mountain

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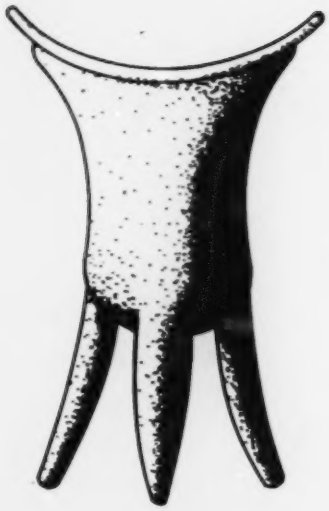
Chinese Pottery Styles



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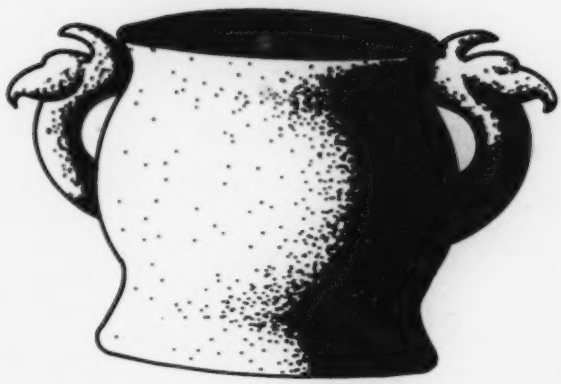
Li

Ting



Kui

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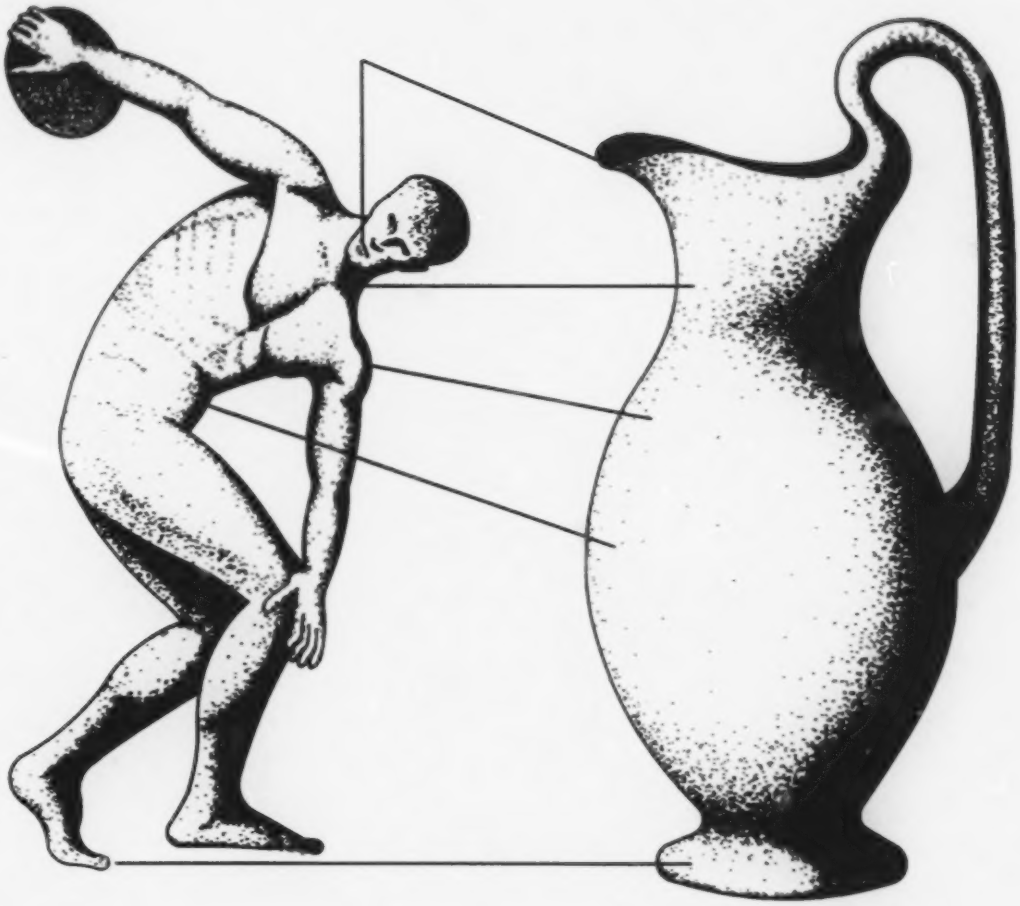
Name the Pottery Part



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Greek Amphora Template

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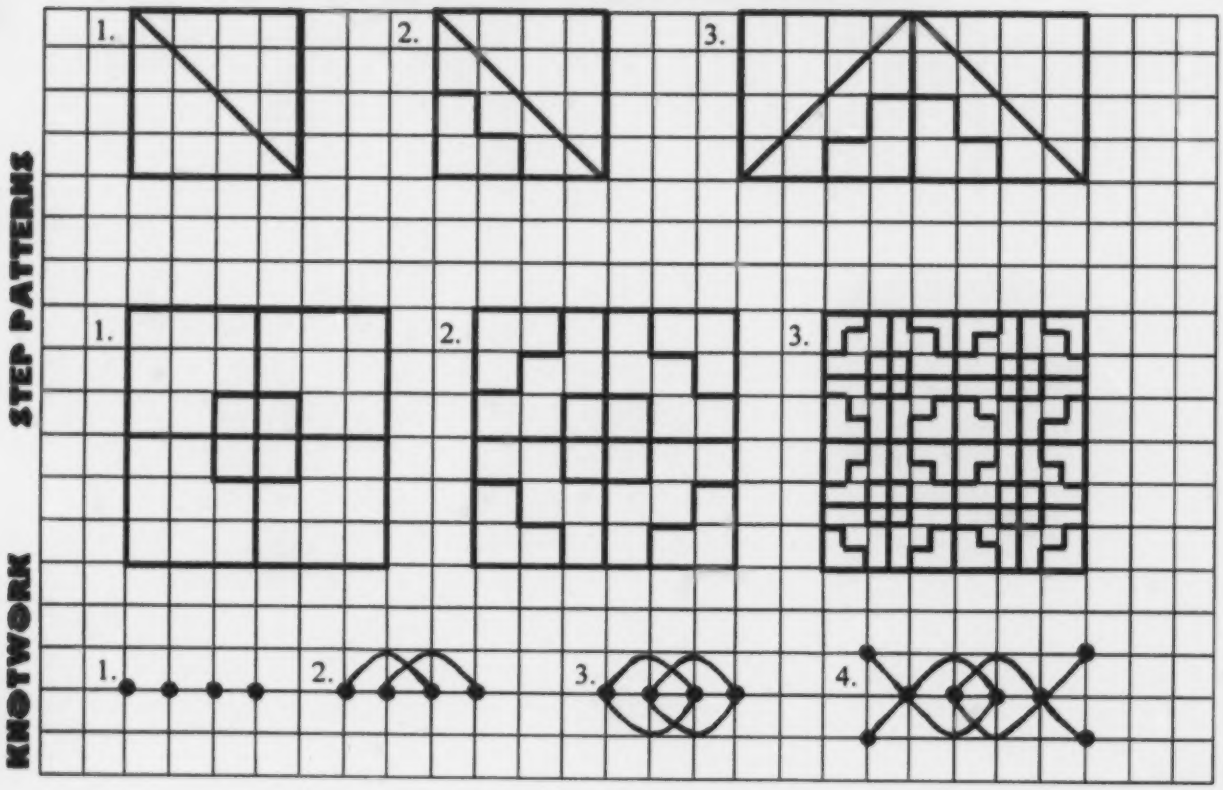
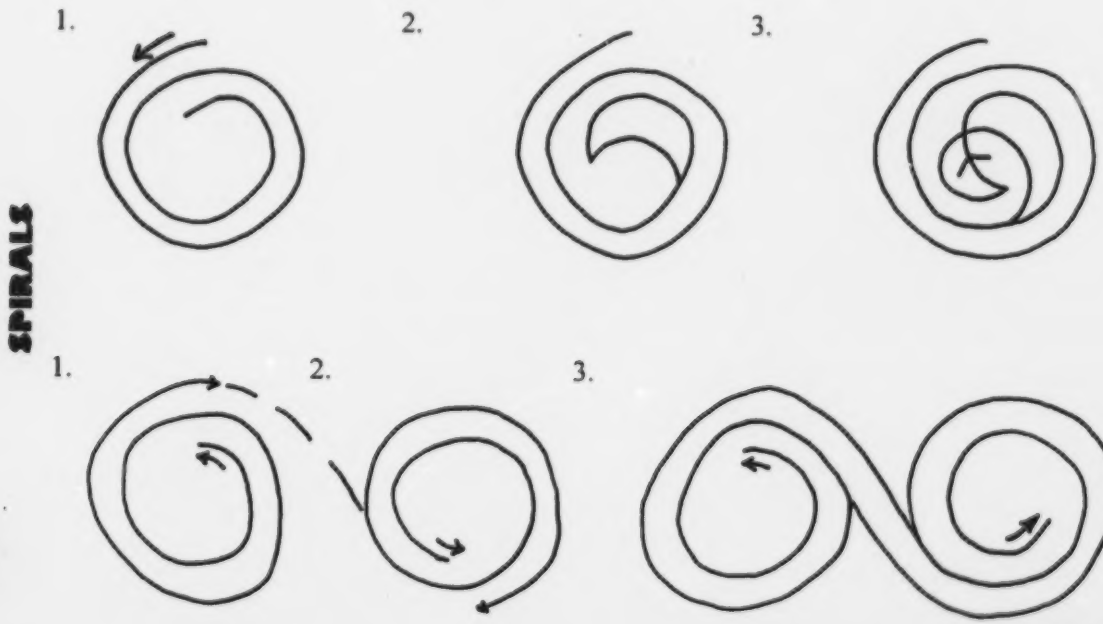
Celtic Design Samples





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Reproducible Exhibit Labels

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Size/Description:

Decoration:

How It Was Made:

Date It Was Made:

Who Made It:

How It Was Used:

Other Interesting Facts About the Object:

Object Name:

Size/Description:

Decoration:

How It Was Made:

Date It Was Made:

Who Made It:

How It Was Used:

Other Interesting Facts About the Object:

ART AND ARCHAEOLOGY

CRIZMAC
ART AND CULTURAL EDUCATION MATERIALS

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National Art Standards for Arts Education-Visual Arts

CONTENT STANDARD 1
Understanding and applying media, techniques, and processes

Grades K–4

(a) Students know the differences between materials, techniques, and processes.

(b) Students describe how different materials, techniques, and processes cause different responses.

(c) Students use different media, techniques, and processes to communicate ideas, experiences, and stories.

(d) Students use art materials and tools in a safe and responsible manner.

Grades 5–8

(a) Students select media, techniques, and processes; analyze what makes them effective or not effective in communicating ideas; and reflect upon the effectiveness of their choices.

(b) Students intentionally take advantage of the qualities and characteristics of art media, techniques, and processes to enhance communication of their experiences and ideas.

CONTENT STANDARD 2
Using knowledge of structures and functions

Grades K–4

(a) Students know the differences among visual characteristics and purposes of art in order to convey ideas.

(b) Students describe how different expressive features and organizational principles cause different responses.

(c) Students use visual structures and functions of art to communicate ideas.

Grades 5–8

(b) Students generalize about the effects of visual structures and functions and reflect upon these in their own work.

(b) Students employ organizational structures and analyze what makes them effective or not effective in the communication of ideas.

(c) Students select and use the qualities of structures and functions of art to improve communication of their ideas.

CONTENT STANDARD 3
Choosing and evaluating a range of subject matter, symbols, and ideas

Grades K–4

(a) Students explore and understand prospective content for works of art.

(b) Students identify specific works of art as belonging to particular cultures, times, and places

(c) Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art.

Grades 5–8

(a) Students integrate visual, spatial, and temporal concepts with content to communicate intended meaning in their artworks.

(b) Students describe and place a variety of art objects in historical and cultural contexts.

(c) Students analyze, describe, and demonstrate how factors of time (such as climate, resources, ideas, and technology) influence the visual characteristics that give meaning and value to a work of art.

CONTENT STANDARD 4
Understanding the visual arts in relation to history and cultures

Grades K–4

(a) Students know that the visual arts have both a history and specific relationships to various cultures.

(b) Students identify specific artworks as belonging to particular cultures, times, and places.

(c) Students demonstrate how history, culture, and the visual arts can influence each other in making and studying works of art.

Grades 5–8

(a) Students know and compare the characteristics of artworks in various eras and cultures.

(b) Students describe and place a variety of objects in historical and cultural contexts.

(c) Students analyze, describe, and demonstrate how factors of time and place (such as climate, resources, ideas, and technology) influence visual characteristics that give meaning and value to a work of art.

CONTENT STANDARD 5
Reflecting upon and assessing the characteristics and merits of their work and the work of others

Grades K–4

(a) Students understand there are various purposes for creating works of visual art.

(b) Students describe how people's experiences influence the development of specific artworks.

(c) Students understand there are different responses to specific artworks.

Grades 5–8

(a) Students compare multiple purposes for creating works of art.

(b) Students analyze contemporary and historic meanings in specific artworks through cultural and aesthetic inquiry.

(c) Students describe and compare a variety of individual responses to their own artworks and to artworks from various eras and cultures.

CONTENT STANDARD 6
Making connections between visual arts and other disciplines

Grades K–4

(a) Students understand and use similarities and differences between characteristics of the visual arts and other arts disciplines.

(b) Students identify connections between the visual arts and other disciplines in the curriculum.

Grades 5–8

(a) Students compare the characteristics of works in two or more art forms that share similar subject matter, historical periods, or cultural context.

(b) Students describe ways in which the principles and subject matter of other disciplines taught in the school are interrelated with the visual arts.

Glossary

A

acropolis. \uh-KROP-uh-LIS\ The upper fortified part of an ancient Greek city.

Aegean. \uh-JEE-in\ Region of the Mediterranean Sea between Asia Minor and Greece and including the islands therein.

Akrotiri. \need pronuncitaion\ A Minoan settlement on the island of Santorini (also called Thera), located about sixty miles north of Crete.

Amphora. \am-FOR-uh\ Meaning "to carry on both sides"; style of pottery vessel having two handles and used mainly for storage (grain, oil, honey, wine).

amulet. \OM-u-LET\ A charm, something often worn around the neck as a remedy for sickness or protection from evil.

analysis. \uh-NAL-uh-SIS\ A process method of studying the nature of something or of determining its essential features and their relations.

Anglican. \AN-gli-kuhn\ Of or relating to England.

anthropology. \AN-thro-PAHL-uh-jee\ The study of the races, physical and mental characteristics, distribution, customs, social relationships, etc. of mankind; often restricted to the study of the institutions, myths, etc.

archaeology. \ar-KAY-AHL-uh-jee\ The study of the life and culture of past peoples by the excavation and analyses of their material remains.

artifact. \ART-uh-fakt\ Any objecs or item collected at an archaeological site, usually made by human work.

B

ba. \bah\ In the Egyptian religion, one of several forms of the spirit of a deceased person; said to be able to leave the tomb during the daytime, taking any form it liked.

barrows. \BER-ose\ Heap of earth and rocks marking an ancient grave.

Battle of Hastings. \BA-tul uhv HAY-stingz\ The battle of the Norman conquest of England in 1066 A.D.

Bayeux Tapestry. \BI-yo TAP-uh-stree\ A linen frieze made by Anglo-Saxon women around 1073 to 1083 A.D.; It is a visual narrative of the Battle of Hastings.

block printing. \blok PRIN-ting\ A type of printing in which figures are cut in relief on a form or hard surface, such as wood, and then inked and stamped onto another surface, leaving behind the design of the relief.

Book of Kells. \book uhv kells\ Collection of Gospel books illuminated by monks in the monastery of Kells during the late sevent century A.D.

Book of the Dead. \book uhv thuh ded\ A guide book of hieroglyphics on papyrus that gave instructions for life after death.

brayer. \BRAY-ər\ Hand roller to spread ink.

brooch. \brooch\ A decorative pin, such as that made by the Celts, often designating rank (largest and most ornate belonging to the wealthiest persons).

Byzantine Empire. \BIZ-ən-teen\ The governmental empire that developed from the Roman Empire when, in the fourth century A.D., the Roman Emperor Constantine moved the empire's capitol city from Rome to Byzantium, a city which he renamed Constantinople after himself. It is today's city of Istanbul, Turkey.

C

calligraphy. \kuh-LIG-ruh-fee\ From the Greek words kalos, which means "beautiful," and graphia, which means "writing."

canon. \KAN-uhn\ A law or rule, in general. Ancient Egyptian painting followed a canon of proportions for portrayal of deities and royalty.

carbon 14 dating. \KAR-buhn for-TEEN DAY-ting\ A method of dating material based on the breakdown of the radioactive carbon within a site.

carpet page. \KAR-puht payj\ The page preceding each Gospel in an illuminated manuscript of the Bible.

Carter, Howard. \KAR-tur, HOW-urd\ (1874–1939) British archaeologist who discovered King Tutankhamun's tomb in 1922 and became the most famous Egyptologist of all time.

cartoon. A sketch of a design for a fresco that is laid atop the plaster surface and from which the design is transferred onto the plaster.

cartouche. \kar-TOOSH\ An oval figure on ancient Egyptian monuments and in papyri, containing sets of characters expressing a name or title of a king or deity.

cataloging. \KAT-uh-log-ing\ process in which unearthed items are labeled to designate exactly where they were found within a site.

Champollion, Jean-Francois. \sha^{n}-pall-YO^{n}, zhon-fran-SWAH\ (1790–1832) French Egyptologist who broke the code of hieroglyphics after twelve years of studying the three writings on the Rosetta Stone.

Chinese Horse. \chi-NEEZ hors\ Style of horse figure drawn on the cave walls of Lascaux, which resembles a Prjwalski's horse, a type of small horse found in the steppes of Mongolia in 1880.

chop. \chop\ A seal of ownership or authorship used by the Chinese, usually red in color. The word "chop" refers both to the block that is inked and used to stamp the seal and to the seal itself.

codex. \KO-deks\ (p. codices) Book made of several folded pages sewn together along the fold.

compass. \KUHM-puhs\ From the fifth century B.C. onward, the compass was used as a tool to construct outlines of complex decorations and to create engravings onto metal or bone.

computer touch terminal. \kum-PEWT-er tuch TER-muhn-$_{(uh)}$l\ Reference tool used as an interactive part of an exhibit.

conservation lab. \KON-ser-VAY-shun lab\ Place where artifacts can be cleaned, preserved, and restored.

conservator. \kuhn-SER-vet-uhr\ One who preserves an artifact.

contrapposto. \KON-truh-POST-o\ Counterpose; a stance of the human body in which the weight is shifted, resulting in turned head, hips, and shoulders.

curator. \kyu-RAYT-uhr\ One who cares for and prepares artifacts for exhibit.

cyclopean. \SI-klah-PEE-uhn\ Gigantic, enormous, massive. Pertaining to the Cyclops, one-eyed gods of Greek mythology. The walls of Mycenae were believed to have been set by the Cyclops because they were of such enormous size.

D

denarii. \di-NAR-ee\ Small silver coins used by the ancient Romans.

demotic. \di-MAHT-ik\ Simplified form of ancient Egyptian hieratic, used in the seventh century B.C.

deposit. \di-PAHZ-it\ Layers of sand, minerals, or clay that wind or water has carried.

Djoser, King. \ZO-sur, king\ A Third Dynasty ruler whose step-pyramid tomb and funerary complex was built at Saqqara around 2650 B.C.

domus. \DO-muhs\ Term used to describe ancient Roman single-family house with atrium.

dynasty. \DIE-nuh-stee\ A family of rulers related by blood.

E

epic poem. \ep-IK PO-uhm\ A long narrative poem recounting the deeds of a legendary or historical hero.

Evans, Sir Arthur. \EV-enz, sur AR-thur\ (1851–1941) English archaeologist who discovered the Minoan site of the Knossos Palace on the island of Crete.

excavation. \ek-skuh-VAY-shun\ A site where the earth has been removed for archaeological study. Also may be called a "dig."

excavator. \ek-skuh-VAY-tur\ One who digs at an archaeological site.

F

faience. \fay-o^{n}s\ A fine grade of painted and glazed pottery or porcelain, often a greenish-blue color, used in Egyptian sculpture and jewelry.

fibula. \FIB-yuh-luh\ (pl. fibulae) A pin or brooch; made by the Celts.

find. \find\ An artifact or item found at an archaeological site.

finds' assistant. \findz uh-SIS-tunt\ One who cleans, labels, and tags an artifact at the site of an excavation.

Fiorelli, Giuseppe. \fee-or-ELL-ee, juh-SEP-ee\ (1807–1882) Professor of archaeology at Naples who was responsible for the main excavations at Pompeii.

fresco. \FRES-ko\ Method of painting on a wall or ceiling into either damp plaster (buon fresco) or dry plaster (fresco secco).

frieze. \freez\ 1. In architecture, a horizontal border around a room or building usually decorated with sculpture. 2. A sculptured or richly ornamented band.

frontal eye. \FRUHNT-ᵊl i\ In paintings and drawings done in Egyptian style, the head is drawn in profile while one eye.the frontal eye.directly faces the viewer.

frontspiece. \FRUHNTS-pees\ A cover page or introductory page to a book.

G

Giza. \GEE-zuh\ A plateau area near the mouth of the Nile, famous for the three large pyramids that are built there.

H

Hallstatt. \HAWL-stat\ (750–450 B.C.) The earlier of two periods into which Celtic times have been divided by archaeologists.

hieratic. \HI-(uh-)RAT-ik\ An everyday writing used by the ancient Egyptians; the ancient equivalent to modern-day cursive.

hieroglyphics. \HI-(uh-)ruh-GLIF-iks\ An ancient, formal, monumental writing using symbols to represent words or sounds; developed in 3100 B.C. by the Egyptians.

Hissarlik. \need pronunciation\ A town in western Turkey near the mound that covered the ancient city of Troy.

House of the Vettii. \hows uhv thuh VET-ee\ Dwelling of the wealthy Vettii family in anicent Pompeii.

hygrothermograph. \HI-gro-THERM-uh-graf\ An instrument for measuring temperature and humidity.

Hypostyle Hall. \HI-puh-STILE haul\ Addition to Temple at Karnak made by commision of Seti I and his son Ramses II.

I

Iliad. \ILL-ee-id\ An epic poem written by Homer, which relates the story of the Trojan War. Read to Heinrich Schliemann by his father, it led Schliemann to the discovery of Troy.

illumination. \ih-LOO-muh-NAY-shun\ The process by which early Christian monks decorated vellum pages with elaborate designs and colors.

Imhotep. \need pronunciation\ Vizier to King Djoser Egyptian architect who built step-pyramids out of stone. Prior to his work, most structures were made of mud brick; also the first artist to have his name appear in recorded history.

in situ. \in SI-choo\ Literally, in its situation. In the natural or original position of an artifact.

insula. \IN(t)s-uh-luh\ (pl. insulae) A Roman city block with dwellings resembling apartment buildings, built around a central area of the city

intaglio. \in-TOG-lee-YO\ Relief carving, typically in sculpture.

interlace. \INT-uhr-LAYS\ Braided or intertwined bands. Recurring motif in Celtic art inspired by the foliage patterns of the Greeks.

interpretation. \in-TUR-pruh-TAY-shun\ In archaeology, what an object is determined to be and what function it is determined to have had, based on the clues the artifact gives.

K

ka. \kah\ In the Egyptian religion, one of several forms of the spirit of a person.

Knossos. \(kuh-)NOS-uhs\ Site on the island of Crete that was excavated by Sir Arthur Evans; the palace of King Minos.

L

La Téne. \lah tehn\ (450 B.C.–51 A.D.) The later of two periods in which Celtic times have been divided by archaeologists.

labyrinth. \LAB-uh-rinth\ A maze-like structure. In Greek legend, such a structure was made by Daedalus for King Minos of Crete to house a mythical beast called the Minotaur.

lararium. \luh-RARE-ee-uhm\ Located to the right of the entryway in ancient Roman homes, this was a shrine to the household gods.

Lascaux. \la-SKO\ Town in France where prehistoric caves were found containing wall paintings of animals and geometric designs produced 17,000 years ago.

Linear A. \LIN-ee-uhr a\ An early form of writing mostly found on seals and pictographic in nature. This writing has yet to be deciphered.

Linear B. \LIN-ee-uhr b\ An early form of writing developed from Linear A script and thought to be an early form of the Greek alphabet.

Luxor. \LUK-SO(uh)r\ Location of a temple designed by Amenhotep III and dedicated to the Egyptian god Amon Re.

M

Magdalenian. \MAG-duh-LEE-nee-uhn\ Of or relating to a late period of the Old Stone Age (25000–8000 B.C.) characterized by cave art and tools of polished stone and bone.

manuscript. \MAN-yuh-skript\ A handwritten (or typewritten) document.

mastaba. \MAS-tuh-buh\ Bench-like mound of mud built over burials chambers by the early Egyptians.

mausoleum. \MAH-suh-LEE-uhm\ A large tomb, usually a stone building with places for entombment of the dead above ground.

Minoan. \muh-NO-uhn\ (2200–1450 B.C.) Early Cretan culture named by Sir Arthur Evans after the legnedary King Minos.

Minos, King. \MEE-nuhs, king\ Legendary king of Knossos and the namesake of Minoan civilization. It is believed that, in actuality, there probably was not one particular Minos, but that the name Minos belonged to a dynasty of rulers at Knossos.

monk. \munk\ A man who retires from the material world and lives in solitary self-denial for religious reasons. The early Christian monks were responsible for the reproduction of biblical literature and the development of illumination as an art form.

mosaic. \mo-ZAY-ik\ Art form in which small bits of stone, clay, glass, etc. are adhered to a backing to create a design.

mummification. \MUHM-i-fuh-KAY-shuhn\ A process of preserving animal or human remains by drying their bodies with herbs, oils, and spices; often part of a religious ritual for the dead.

mummy. \MUHM-ee\ The preserved body of a person or animal. The term was first used to describe the bandaged bodies of ancient Egyptians, but any dead body that still has skin on it is a mummy.

Mycenae. \MIE-suh-NEE\ Site in the Peloponnese area of Greece which was excavated by Heinrich Schliemann and thought to have been the palace of King Agamemnon.

N

narrative painting. \NARE-uh-tiv PAYN-ting\ Artwork that tells a story or recalls an event.

necropolis. \nuh-KROP-uh-luhs\ A burial area which includes buildings and monuments.

negative space. \NEG-uht-iv spays\ Design concept of the background, or ground, in an artistic composition.

numismatology. \N(y)OO-muhs-muh-TAL-uh-jee\ The science of coin collection and identification.

O

obelisk. \OB-uh-LISK\ A tall, slender, four-sided pillar, gradually tapering as it rises, with a pyramid-shaped top. The shaft of an obelisk was made from one block of stone, and was often decorated with inscriptions and hieroglyphics. Obelisks were erected in honor of persons of distinction.

Odyssey. \OD-i-see\ Companion epic poem to the *Iliad*; both written by Homer.

oppidum. \AH-pidum\ A Celtic settlement on a hill.

P

Paleolithic. \PAY-lee-uh-LITH-ik\ Designating or of a prehistoric period (40,000–10,000 B.C.), known as "Old Stone Age," characterized by the use of stone tools.

paleontology. \PAY-lee-on-TOL-uh-jee\ The branch of geology which deals with prehistoric forms of life through the study of plant and animal fossils.

palmette. \pawl-MET\ One of the essential motifs of Celtic art; it often occurs between two S-shaped motifs, and is considered a symbol of divinity.

papyrus. \puh-PI-ruhs\ (pl. papyri) A kind of paper made from the stalk of the papyrus plant, which grew along the Nile River. Papyrus was used by Egyptians, Greeks, and Romans. Also refers to any ancient manuscript or document on papyri. The word "paper" was derived from this term.

parchment. \PARCH-muhnt\ Writing material made from cured sheep or goat skin.

parietal. \puh-RI-uht- l\ Term describing artworks done on an unprepared wall, such as those found at Lascaux, France. A prepared wall would have a substance such as plaster or gesso painted first, followed by the paint of the artwork.

Parthenon. \PAR-thuh-non\ The Doric temple of Athena, built by ancient Greeks on the Acropolis in Athens during the fifth century B.C.

pharaoh. \FER-ro\ The title given to rulers of the ancient Egyptian kingdom. The word, in Egyptian, literally means "great house."

Pheidias. \FID-ee-uhs\ Renowned Greek sculptor who supervised the building of the Parthenon.

photomural. \FO-to MYUR-uhl\ A museum exhibit technique of using a large photograph as wall decoration, setting the context or place where an artifact was found. Sometimes used for a whole exhibit, but more often to set the context of an artifact.

pictographs. \PIK-toe-grafs\ Drawings or paintings representing words and ideas.

pigments. \PIG-muhntz\ Coloring matter, usually in the form of an insoluble powder, mixed with oil, water, etc. to make paints.

pit. \pit\ An area of gridded ground where an excavation is taking place within an archaeological site.

pit number. \pit NUHM-buhr\ A number assigned to an archaeological unit, or square grid, which serves as a way to identify the location of the artifacts found within.

pithoi. \PITH-oy\ Huge storage jars in which oil and wine were kept.

Pliny the Younger. \PLINE-ee thuh YUN-ger\ (c. 62–114 A.D.) Man who wrote letters to a historian named Tacitus, giving an account of the 79 A.D. eruption of Mount Vesuvius, thereby providing written documentation of the event for later historians to study.

Pompeii. \pom-PAY\ An ancient resort town near the coast of Italy, where wealthy Roman citizens came to vacation, as well as live. It was buried and preserved in 79 A.D. in debris from the volcanic eruption of neighboring Mount Vesuvius.

postive space. \PAHZ-uh-tiv spays\ Design concept of the main figure or subject in an artistic composition.

potsherd. \POT-sherd\ A piece or fragment of broken pottery.

pounce. \powns\ A small bag containing powdered, black charcoal, which is pressed against a cartoon sketch to transfer the drawing onto a plaster surface.

prehistoric. \PRE-(h)is-TOR-ik\ Of or relating to the period preceeding the earliest period of recorded history.

Priam's Treasure. \PREE-uhmz TRE-zhur\ The gold items and jewelry found near Hissarlik in excavations by Heinrich Schliemann and thought to be that of King Priam, the King of Troy.

pulp. \puhlp\ Soft mass of tissue obtained by mechanical or chemical preparation of a material such as wood or fabric.

pyramid. **\PIR-uh-MIDS** Four-sided, triangle-shaped structure. Pyramids were used for burials of pharaohs in ancient Egypt.

R

Ravidat, Marcel. \RAV-ee-dot mar-SEL\ One of the boys who, in 1940, accidentally found the famed cave near Lascaux, France.

register. \REJ-uh-stuhr\ Column and/or row of symbols or characters.

registration number. \REJ-uh-STRAY-shun NUM-ber\ Identifying number given to an object when it has been recorded at a museum.

relief. \ri-LEEF\ A form of sculpture in which a flat surface is cut away in areas (or built up in areas) creating a raised design.

Rosetta Stone. \ro-ZET-uh stone\ A tablet of black basalt found in 1798 at Rosetta, a town in Egypt. Because it bore parallel inscriptions of ancient Greek, Egyptian demotic, and hieroglyphic characters, it provided a key to the deciphering of hieroglyphics.

S

sarcophagus. \sar-KOF-uh-guhs\ (pl. sarcophagi) A stone coffin, especially one bearing sculpture or inscriptions, and often displayed as a monument.

Schliemann, Heinrich. \SHLEE-muhn, INE-rik\ (1822–1890) Often called the first true archaeologist. He researched The Iliad to locate the ancient city of Troy. He uncovered Troy and Mycenae in ancient Greece.

scribe. \skribe\ A person who copied manuscripts before the invention of printing.

scriptorium. \skrip-TOR-ee-uhm\ (pl. scriptoria) Early writing workshops in monasteries, where monks produced copies of the Bible and other Christian books in mass quantities.

Seven Wonders of the World. \SEV-uhn WUHN-derz uhv thuh WURLD\ A list of ancient world achievements compiled by a Greek historian.

Shang Dynasty. \shayng DIE-nuh-stee\ (1750–1000 B.C) Noted for bronzeware production. Shang society was clan-based and dominated in various localities by warrior nobility.

Shi Huangdi, Qin. \shuhr hwon dee, chin\ Known as the First Emperor of China, because he brought unity to the country; China is named for him.

Shih Chi. \SHY CHEE\ A compilation of previous histories and chronicles that was the first comprehensive history of China. Authored by Chinese historian Ssu-ma Ch'ien (c.145–86 B.C.).

site. \site\ An area designated by archaeologists for excavation.

Sphinx. \sfinks\ An Egyptian statue, or figure, having the body of a lion and the head of a man.

stele. \steel\ An upright stone slab or pillar engraved with an insciption or design.

step-pyramid. \step PIR-uh-MID\ Used for tombs; made of successively smaller mastabas placed one on top of another.

stratum. \STRAYT-uhm\ (pl. strata) Horizontal layers of material, especially several lying atop one another. The layers of ground in which artifacts are discovered.

stratigraphy. \struh-TIG-ruh-fee\ The determination of the age of artifacts by the study of relative locations of the layers of material that are found in an excavation.

study collection. \stuhd-ee cuh-LEK-shuhn\ Collection of artifacts from a given archaeological site used for researching a culture or site.

Sumer. \SOO-muhr\ The southern division of ancient Babylonia, a region in what is now Iraq.

symbol. \SIM-buhl\ Something that represents or stands for something else.

T

tallow. \TAL-o\ The harder and less fusible fat in cows, sheep, etc. that is melted and used to make candles, soap, etc.

tell. \tel\ A mound or hill; if located in an unusual area, it may be a site for excavation.

Temple at Karnak. \TEM-puhl at KAR-nak\ Largest and best known temple in Egypt.

tessera. \TES-uh-ruh\ (pl. tesserae) a small bit of clay, stone, or glass used in mosaics and stained glass windows.

ting. \ting\ A Chinese vessel style having three legs and used for holding food or offerings during religous ceremonies.

toga. \TO-guh\ Typical Roman garment consisting of a large piece of material draped over one shoulder and tied at the waist.

torque. \tork\ A neck-ring made of rigid metal (bronze, gold, or silver) regarded as the typical costume ornament of the Celts.

Tree of Life. \tree uhv life\ Theme adopted by the Celts in the fifth century from northern Italy; generally represented as the palmette design, flanked by guardian animals; sometimes represented as mistletoe, a venerated item that was thought to be associated with a pagan god.

Troy. \troy\ An ancient city in the *Iliad;* home to King Priam and one of the sites of the legendary Trojan War; excavated by Heinrich Schliemann in 1871.

Tsai Lun. \(t)sie loon\ The man reputed to have invented paper in China in 105 A.D. No solid proof has been found that Tsai Lun was the inventor, but the story has endured through the ages.

tsunami. \(t)soo-NAM-ee\ A tremendous tidal wave that is created as the result of an undersea earth movement or volcano.

Tutankhamun, King. \tuh-TAN-KAHM-uhn, king\ Egyptian pharoah of the Eighteenth Dynasty. His tomb was virtually undisturbed when discovered in 1922 by Howard Carter.

twisted perspective. \TWIST-id PER-spek-tiv\ A method of depicting animals and humans in such a way as to show a three-quarter view of parts of the figure while the rest of the figure is in profile. This method was first found at Lascaux where, for example, both horns and both front legs are shown on animals standing in profile.Carter.

U

uswabti. \oo-SHWAB-tee\ (sometimes spelled "ushebti" or "swabti") Egyptian clay, wood, or stone figurine of a person (especially a slave). Groups of these were buried with pharoahs. They were believed to come to life in the afterworld to help their masters. The term comes from the Egyptian word meaning "answerer."

V

Valley of the Kings. \VAL-ee uhv thuh kingz\ A traditional burial area reserved for Egyptian royalty located on the west bank of the Nile.

vellum. \VEL-uhm\ A thick, specially prepared calfskin used for writing upon and binding books.

Ventris, Michael. \VEN-tris, MIE-kuhl\ The British architect who deciphered Linear B in 1952.

Vesuvius, Mount. \vuh-SOO-vee-uhs, mownt\ A volcano that erupted August 24, 79 AD and covered the city of Pompeii.

Vitruvius. \vi-TROO-vee-uhs\ Roman author of ten-volume work about Greek and Roman architecture in the first century BC.

vizier. \vuh-ZI(uh)R\ A high executive officer, minister, or council of state.

W

William the Conqueror (Duke William). \WIL-yuhm thuh KOHN-ker-uhr\ Led the Normans in the Battle of Hastings to claim the English throne.

X

Xian. \ZHI-ahn\ Location in China where the elaborate burial complex of China's First Emperor, Qin Shi Huangdi, was discovered.

Z

zoomorphic. \ZO-uh-MOR-fik\ Having the form of an animal.

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http://www.pbs.org/wgbh/pages/nova/pyramid/excavation

Phillip R. Burns homepage of archaeological interests, such as Egypt, Celts, and on-line archaeology magazines
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Maya Quest, an interactive exploration you can join
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Kennedy Center, general art education
http://artsedge.kennedy-center.org/artsedge.html

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